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A
MONOGRAPH OF THE PARADISEIDÆ,
OR
BIRDS OF PARADISE.

BY

DANIEL GIRAUD ELLIOT,

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AMERICA; &c. &c.

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TO

ALFRED RUSSEL WALLACE, Esq.,

WHOSE FAME AS A TRAVELLER

IS ONLY ECLIPSED

BY THAT WHICH HE HAS GAINED AS A NATURALIST;

AND TO WHOM WE ARE INDEBTED FOR NEARLY ALL OUR

AUTHENTIC INFORMATION

REGARDING THE HABITS OF MANY SPECIES

OF THE

BIRDS OF PARADISE,

THIS VOLUME

IS

DEDICATED

BY THE AUTHOR.

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PREFACE.

The Birds of Paradise having always attracted me by their strange forms and brilliant plumage, I was led to select them as the subject of my fourth illustrated Monograph. It is only within the last two or three years that a work like the present could have been published in a similar manner; for, although the greater number of the species contained in it have been known to naturalists for a considerable period of time, yet the preserved skins reached Europe in such a mutilated condition that no correct idea could be formed of the birds' appearance in life. Recently, however, through the efforts of enterprising collectors, assisted and encouraged in some cases by their respective governments, the skins of all the known species, with, perhaps, only one or two exceptions, have been forwarded to Europe in perfect condition; and an opportunity has thus been afforded to represent the birds as they appear in their native wilds. Among those who have endeavoured in every manner to advance and benefit the cause of science, I may cite as a notable example the Government of Holland, whose Museum at Leyden is at present unequalled, and whose collectors in the Indian archipelago have, among other most valuable novelties, forwarded many species of Birds of Paradise heretofore unknown in their perfect state. To Prof. Schlegel, therefore, the Director of the Museum named above, I am under the pleasing obligation of acknowledging the valuable assistance received from him in the publication of this work; for he permitted me to bring to London such specimens as were required to be figured for it and were not otherwise obtainable. Mr. Gould, in London, and the late M. J. P. Verreaux, in Paris, who possessed specimens of birds of this family that were not represented in my own collection at the time they were required, most kindly placed them at my service; and although I have endeavoured in all cases to acknowledge my indebtedness to these gentlemen in the articles accompanying the various species, yet I am happy to take this opportunity of renewing my thanks. To Dr. P. L. Sclater, who placed in my hands to be figured for this work the new species described by him, I am greatly obliged. To Mr. F. H. Waterhouse, the efficient Librarian of the Zoological Society, I am under many obligations for his uniform civility and attention whenever I desired to consult the books under his charge.

The drawings executed by Mr. Wolf will, I am sure, receive the admiration of those who see them; for, like all that artist's productions, they cannot be surpassed, if equalled, at the present time. Mr. J. Smit has lithographed the drawings with his usual conscientious fidelity, and in his share of the work has left me nothing to desire; while the printing of the plates by Messrs. M. & N. Hanhart has been most carefully and excellently done.

In the colouring of the plates Mr. J. D. White has faithfully followed the originals; and in the difficult portions, where it was necessary to produce the metallic hues, he has been very successful.

The letterpress, from the establishment of Messrs. Taylor & Francis, has been printed from new type; and the execution fully sustains the reputation of that house.

And in conclusion I would express my acknowledgments to those who have honoured my work with their support, and aided me in bringing it to a successful completion.

INTRODUCTION.

Among the many and diversified ornithological groups of which we have any knowledge, there is none that contains species possessing a more extraordinary and abnormal style of plumage than that in which are included the beautiful creatures universally known as Birds of Paradise. The lands they inhabit, even at the present day, are classed among those with which the civilized world is least acquainted, and which have always, by means of their dense forests, rugged surface, unhealthy climate, as well as the hostility of their native tribes, presented insuperable obstacles to successful exploration by the naturalist, however ardent and adventurous, who sought to discover their hidden treasures. It is not surprising, therefore, that many and absurdly exaggerated stories have always been current regarding the Birds of Paradise; and the announcement that they lived in the air, and hatched their eggs under their wings, obtained many believers, notwithstanding the acknowledged difficulty of these achievements, particularly the last. The comparatively few skins of certain species which found their way into European cabinets were so mutilated, that any correct idea of the bird's appearance in life was impossible; and thus representations of them were given, in the early works devoted to ornithology, which now to our eyes (accustomed to view the species in a perfect state) appear very curious. The vivacious and restless disposition of the birds of this family, particularly those belonging to the restricted genus *Paradisea*, causes them to be always in movement; and thus, as they were constantly on the wing (resting but for a very short period in the trees), the natives came to harbour the belief that their lives were passed without the birds' ever perching; and as the skins first sent to Europe were always deprived of their feet, they were supposed by those who obtained them to be wanting in these useful members; and Linnæus, yielding to this fancy, bestowed upon the Great Bird of Paradise the term *apoda*, or "footless"—a most inappropriate name, as we all know. The eggs of the *Paradiseæ*, as well as the nest, are as yet unknown.

Many authors have written about these birds; and the literature of the family is voluminous. In the following review of this important part of my subject, I have recorded, as I believe, all that was necessary to mention, beginning as usual with the tenth edition of Linnæus's great work the 'Systema Naturæ,' published in 1766.

LITERATURE OF THE FAMILY.

1766.—Linnæus, 'Systema Naturæ.'

Only two species of Paradise-birds were known to the great Swedish naturalist, named respectively by him *Paradisea apoda* and *P. regia*. *Acridotheres tristis* is also included in the same genus. Species 2.

1781.—Forster, 'Zoologia Indica Selecta.'

A polynomial writer, who lost his opportunities of being cited as an authority from the fact of his having given three names to all species, which obliges naturalists of the present day to pass him by without recognition.

1782.—Latham, 'General Synopsis of Birds.'

All the species of Paradiseidæ known at the time are recorded in this work; but unfortunately only English names were given, and our author's remissness was Gmelin's opportunity, who speedily furnished Latin names to the species. Nine different ones are given, and several plates, with figures easily recognizable.

1783.—Boddaert, 'Table des Planches Enluminées de Buffon.'

In this work the author provides Latin names for the various species of Paradise-birds figured by Buffon, and, like this last author, does not discriminate closely, but gives various names in some instances to the same bird in different stages of plumage. They are included in three genera, *Paradisea*, *Upupa*, and *Manucodia*. Thus we have *Paradisea sexpennis*, *P. atra*, and *P. speciosa*, *Upupa speciosa*, *U. striata*, and *Manucodia chalybea*: of these the *Upupa speciosa* and *U. striata* are sexes of the species now known as *Epimachus speciosus*, Boddaert's name taking precedence of all others; the rest are all valid. Species 7.

1786.—Scopoli, 'Deliciæ Floræ et Faunæ Insubricæ.'

In this work, a small portion of which is devoted to ornithology, the author characterizes and gives Latin names to some of the Birds of Paradise (as well as species belonging to other families) figured by Sonnerat in his 'Voyage à la Nouvelle-Guinée.' Five species are mentioned, all of which, however, had been named by earlier authors. They are:—*Paradisea rex* (*Cicinnurus regius*), *P. superba* (*Lophorina atra*), *P. penicillata* (*Parotia sexpennis*), *P. magnifica* (*Diphyllodes speciosa*), and *P. viridis* (*Manucodia chalybea*).

1788.—Gmelin, 'Systema Naturæ.'

In this edition of Linnæus's 'Systema Naturæ' eight species belonging to the Paradiseidæ are recorded:—*P. apoda*, *P. regia*, *P. magnifica*, *P. nigra*, *P. superba*, *P. aurea*, *P. alba*, and *P. viridis*. These have since been divided into various genera, as they present characters which cannot very well be classified under one head. Besides the species just given, this author, copying Linnæus, includes in his list *P. tristis*, from the Philippines, which belongs to the genus *Acridotheres* of the Starling group. Species 11.

1790.—Latham, 'Index Ornithologicus.'

Twelve species of Paradise-birds are given in his list, all included in the genus *Paradisea*, eight of which are good. *P. cirrhata* is the *Diphyllodes speciosa*, *P. furcata* is *Lophorina atra*, *P. chalybea* is *Manucodia chalybea*; *P. leucoptera* is difficult to define, probably a made-up specimen. Species 11.

1801.—Latham, 'General Synopsis,' Supplement.

Under the name of *Turdus melinus* is described a young male *Sericulus* from New Holland, generally known as *S. chrysocephalus*, which last must become a synonym. Species 12.

1802.—Vieillot et Audebert, 'Oiseaux Dorés,' 'Histoire Naturelle et Générale des Grimpereaux et des Oiseaux de Paradis.'

This splendid work, besides those of other families, gives eleven species of the Paradiseidæ, with plates of each. French nomenclature is employed upon the plates and headings of the pages; but a few synonyms are given from older authors. No new species are added, the desire of the authors being apparently to present, as far as possible, good figures of those already known.

1806.—Levaillant, 'Histoire Naturelle des Oiseaux de Paradis.'

In this work, at the time of its publication the finest ever issued upon this Family, twelve species of Paradiseidæ are given, the author employing French nomenclature. All the species are figured nearly of the size of life, and generally the females are also represented upon separate plates, and one or two plates of feathers are also given. The letterpress is mainly composed of descriptions of the birds; but the literature of the Family is entirely neglected.

1807.—Levaillant, 'Histoire Naturelle des Promerops et des Guêpiers.

Life-size figures of *Epimachus speciosus*, male, female, and young male, *Ptiloris magnificus*, and *Seleucides alba*, are given, all, however, under French names, this author never having employed a Latin nomenclature.

1809.—Shaw, 'General Zoology.'

Two species are here named for the first time, *Paradisea minor* and *Paradisea sanguinea*, which will hereafter take the place of *papuana* and *rubra* respectively. Ten other species are also given:—*P. major*, which is the *P. apoda*; *P. nigra* and *nigricans*, which equal *Seleucides alba*; *P. cirrhata* and *P. magnifica*, the same as *Diphyllodes speciosa*; *P. superba*, which is *Lophorina atra*; *Paradisea sexsetacea* (*P. sexdennis*), now composing the genus *Parotia*; *P. regia*; *P. aurantia*, now the only species of the genus *Xanthomelus*; *P. leucoptera*, a made-up bird; and *P. gularis*, which is *Astrapia nigra*. *Paradisea chalybea*, also included, is the *Manucodia viridis*. Species 14.

1811.—Bechstein, 'Kurze Uebersicht aller bekannten Vögel.'

A list of fifteen so-called species is given, similar to previous ones. None are described for the first time; *P. sanguinea*, of Shaw, is renamed *rubra*; and *P. sexsetacea* (*P. sexpennis*) is called *P. violacea*.

1811.—Shaw, 'General Zoology.'

The *Epimachus speciosus* is here called by three different names, and placed in the genus *Promerops*, viz. *P. striatus*, *P. superbus*, and *P. paradiseus*, all of which must become synonyms of the name bestowed upon the species by Boddaert.

1815.—Paykull, 'Nova Acta Societatis Scientiarum Upsaliensis.'

Ælurœdus crassirostris, first described as *Lanius crassirostris*. Species 15.

1816.—Vieillot, 'Nouveau Dictionnaire D'Histoire Naturelle.'

Ptilonorhynchus violaceus described as *Pyrrhocorax violaceus*. Species 16.

1819.—Vieillot, 'Nouveau Dictionnaire D'Histoire Naturelle.'

In the genus *Promerops*, among various species of birds, Vieillot here includes some species of Paradise-birds of the genus *Epimachus* and *Ptiloris*. The *P. magnificus* is named *Le Promerops promefil* (*Falcinellus magnificus*); and *Epimachus maximus* is called *Le Promerops à paremens frisés* (*Falcinellus superbus*). A figure (uncoloured) of each is also given.

1820.—Kuhl, 'Beyträge zur Zoologie u. vergleich. Anatomie.'

Ptilonorhynchus violaceus redescribed as *P. holosericeus*.

1822.—Latham, 'General History of Birds.'

A long list of twenty supposed species of Birds of Paradise is included in this author's account; but no new ones are added, which is just as well, as they could not be credited to him, since he only uses English nomenclature. Some are founded upon drawings, others upon evidently manufactured specimens, and some on incomplete descriptions. Nearly all the true species known at the time the work was written are included.

1825.—Temminck, 'Planches Coloriées.'

Sericulus melinus is described and figured as *Oriolus regens*.

1825.—Vieillot, 'Galerie des Oiseaux.'

Very fair figures of *P. regia*, *P. sexpennis*, *P. atra*, *P. sanguinea*, and *Astrapia nigra* are given, the last three called respectively *superba*, *rubra*, and *gularis*.

1825.—Swainson, in the 'Zoological Journal.'

Ptiloris paradiseus is first described; and *Sericulus melinus* is renamed *Chrysocephalus*. Species 17.

1825–1839.—Jardine and Selby, 'Illustrations of Ornithology,' 4to, vol. ii.

Ptilonorhynchus (*Chlamydodera*) *nuchalis* described for the first time. Species 18.

1826.—Shaw, 'General Zoology.'

A list of the Birds of Paradise is given under various genera:—*Astrapia nigra*; *Parotia aurea*, which is *P. sexpennis*; *Paradisea* is made to contain *apoda*, *minor*, *rubra* (which is *sanguinea*), *nigricans* (a synonym of *Seleucides alba*), and *magnifica* (now known as *Diphyllodes speciosa*); *Lophorina* includes *superba* (which is *atra*) and *aurantia* (which is the *Xanthomelus aureus* of the present monograph); *Cicinnurus* contains its single species *regius*; and *Epimachus*, possessing two species—*superbus* (which is *E. speciosus*) and *splendidus* (which is *Ptiloris magnificus*).

1826.—Lesson, 'Voyage de la Coquille.'

Manucodia Keraudreni and *Phonygama atra* described. Species 20.

1827.—Wagler, 'Systema Avium.'

All the known species of those birds usually placed by the previous authors in the genus *Paradiseus* are given, with descriptions and synonymy. Under the genus *Ptilonorhynchus* are given *holosericeus*, *squamulosus*, and *viridis*. The second of these is the same as the first or Satin Bower-bird; and the last is the *Ælurœdus crassirostris*.

1827.—Vigors and Horsfield, 'Transactions of the Linnean Society.'

Ptilonorhynchus violaceus is here renamed *P. MacLeayii*.

1828–1831.—J. Wilson, 'Illustrations of Zoology.'

Ptiloris paradiseus is renamed *Epimachus Brisbani*.

1829.—Cuvier, 'Règne Animal.'

Falcinellus magnificus, Vieill., described as *Epimachus magnificus*.

1831.—Lesson, 'Traité d'Ornithologie.'

The various species of Birds of Paradise are here given, the *Sericulus melinus* of Australia being included in the family; and the *Paradisea aurea* of authors is placed in the same genus with the Regent bird. Four genera previously instituted are here employed as subgenera, viz. *Parotia*, *Lophorina*, *Manucodia*, and *Astrapia*, and one new one proposed, *Magnificus*. No new species are described.

1832.—J. E. Gray, 'Illustrations of Indian Zoology.'

Paradisea minor figured nearly size of life.

1835.—Lesson, 'Histoire Naturelle des Oiseaux de Paradis, et des Epimaques.'

This work contains those species regarded by the author as composing the family Paradiseidæ. Fourteen species in all are given, illustrated by forty plates. The species of the genera *Manucodia*, *Chlamydodera*, *Ælurœdus*, and *Ptilonorhynchus* are excluded, while *Sericulus* is retained and is made to include the well-known Regent bird as *S. regens*, and also the Golden Bird of Paradise as *S. aurantiaca*. *Cicinnurus regius* appears as *C. spinturnix*; and other changes are made in the various species, as though the author paid little regard to the law of priority, or to the names bestowed by authors previous to himself. A rather full list of synonyms is given at the commencement of the work, and a detailed account of certain of the East-Indian islands; but little is added to our knowledge of the birds of this family, beyond that which had already been published in the author's previous writings and in those of his contemporaries. Great care has evidently been taken with the work; and it has up to the present day been quoted as one of the chief authorities on the Paradiseidæ, the author's voyage to New Guinea having given him favourable opportunities for observing some of the species in their native woods, and for obtaining skins of others more rare. No new species are described.

1835.—Temminck, 'Planches Coloriées.'

Ælurœdus buccoides first described Species 21.

1836.—Gould, 'Proceedings of the Zoological Society.'

Chlamydodera maculata described as *Calodera maculata*. Species 22.

1837.—Swainson, 'Classification of Birds.'

A definition of the genus *Ptilonorhynchus* is given, with woodcuts of the head and portion of the wing.

1837.—Gould, 'Proceedings of the Zoological Society of London.'

Sericulus melinus is here redescribed as *S. magnirostris*.

1837.—Gould, 'Birds of Australia.'

In this magnificent work are figured the species of this family inhabiting Australia known up to the time it was completed. They are:—*Ptilonorhynchus holosericeus* and *Ælurœdus Smithii*, which are *P. violaceus* and *A. crassirostris*; *Chlamydodera nuchalis*; *C. maculata*; *Sericulus melinus*; and *Craspedophora magnifica*, which is the *Ptiloris Alberti*.

1841.—Eydoux et Souleyet, 'Voyage autour du monde sur la corvette La Bonite.'

Paradigalla carunculata first described as *Astrapia carunculata*. Species 23.

1845.—G. R. Gray, 'Genera of Birds.'

In this work the author has placed the Paradiseidæ, as so considered in this monograph, among various families. *Paradiseus*, the only genus of Paradiseidæ, is made to contain seven species—*apoda*, *papuana*, *rubra*, *speciosa*, *regia*, *atra*, and *sexpennis*, all good. *Ptilonorhynchus*, *Chlamydera* (lege *Chlamydodera*), and *Astrapia* are placed among the Sturnidæ. The first contains *P. holosericeus* and *P. Smithii*, which are *P. violaceus* and *Ælurœdus crassirostris* respectively; the second has *C. nuchalis* and *C. maculata*; while the third has the two known species *A. nigra* and *A. carunculata*. Nothing new regarding any of the species is mentioned; the synonymy given is very correct, except that the species obtained by Hombron and Jacquinot is the *Chlamydodera nuchalis* (and not *C. maculata*, to which it is referred), and the *Sturnoides gigas* of the same authors is more probably a *Calornis*, in which genus Mr. Gray has placed it in his 'Hand-list of Birds,' lately published. The genus *Phonygama* is placed among the Corvidæ, and contains *viridis*, *Keraudreni*, and *ater*. These are now included in Boddaert's genus *Manucodia*.

1849.—Bonaparte, 'Comptes Rendus.'

Diphyllodes respublica first described under the genus *Lophorina*. Species 24.

1849.—Gould, 'Proceedings of the Zoological Society of London.'

Ptiloris victoriæ is here first described. Species 25.

1850.—Bonaparte, 'Conspectus Generum Avium.'

The Birds of Paradise are included by this author in the families Epimachidæ, Paradiseidæ, Sturnidæ, and Garrulidæ. All the species known at the time of the publication of this useful work are included, with short descriptions added for many of the species. The genera, as they are now usually employed, are here placed in regular order.

1850.—Cabanis, 'Museum Heineanum.'

A list of Paradise-birds comprised in the Collection of Ferdinand Heine. The species are all included in the family Paradiseidæ, divided into two subfamilies, Oriolinæ containing, among many others, the genera *Sericulus*, *Chlamydodera*, and *Ptilonorhynchus*. The subfamily Paradiseinæ comprises *Paradisea*, *Cicinnurus*, *Ptiloris*, *Craspedophora*, *Seleucides*, and *Epimachus*. Twelve species are given as represented in the Collection.

1850.—Gould, 'Proceedings of the Zoological Society of London.'

Chlamydodera cerviniventris first described. Species 26.

1850.—Cassin, 'Journal of the Academy of Natural Sciences of Philadelphia.'

Diphyllodes respublica renamed as *Paradisea wilsoni*.

1858.—Gray, 'Proceedings of the Zoological Society of London.'

Ælurœdus melanotis described in the genus *Ptilonorhynchus*; also the *Paradisea apoda*, from Aru, is described as *P. Wallaciana*. Species 27.

1859.—G. R. Gray, 'Proceedings of the Zoological Society of London.'

Semioptera Wallacei first described. Species 28.

1859.—Gray, 'Proceedings of the Zoological Society of London.'

The variety *P. Wallaciana*, referred to above, is here erased by the author from the list, as not entitled to any specific consideration.

1859.—G. R. Gray, 'Proceedings of the Zoological Society of London.'

Manucodia Keraudreni, from Australia, separated as distinct, and called *M. Gouldi*.

1860.—Goodwin, 'Proceedings of the Zoological Society of London.'

A young male of *Paradisea minor* described as distinct under the name of *P. Bartlettii*.

1862.—Wallace, 'Proceedings of the Zoological Society of London.'

Some valuable remarks are given upon the geographical distribution of the Birds of Paradise, and also the great difficulties existing in their capture.

1862.—Gould, 'Proceedings of the Zoological Society of London.'

Chlamydodera guttata described from a head.

1867.—Schlegel, 'Museum d'Histoire Naturelle des Pays-Bas.'

A catalogue of the species in the Leyden Museum. They are arranged in the following genera:—*Paradisea*, *Epimachus*, *Sericulus*, and *Ptilonorhynchus*, including in the last the species of Bower-birds of the genus *Chlamydodera*. The number of specimens shows how rich that Museum is in the birds of this family.

1867.—Diggles, 'Ornithology of Australia.'

A hybrid between *Ptilonorhynchus violaceus* and *Sericulus melinus* is described and figured as *Ptilonorhynchus Rawnsleyi*.

1869.—Wallace, 'Malay Archipelago.'

In this valuable and interesting work a full account of the habits of the different species of Paradiseidæ observed by the author, as well as their geographical distribution, is given, to which is added a list of the species considered to belong to the family. Eighteen species are recorded; those belonging to the genera *Sericulus*, *Ptilonorhynchus*, *Chlamydodera*, *Ælurœdus*, and *Manucodia* are not included. The Paradise-Oriole is placed with a query in the genus *Sericulus*, and an opinion expressed that it would be more properly placed in a genus by itself, which has been done in this Monograph.

1870.—Gray, 'Hand-list of Birds.'

This, the latest of Mr. Gray's publications, gives all the species included in this Monograph. The classification is nearly the same as in his previous writings, and the Paradiseidæ are placed in three families—Paradiseidæ, Sturnidæ, and Oriolidæ. The Regent and Bower-birds are removed from the Sturnidæ (where they were placed in the 'Genera of Birds') and made a subfamily (*Ptilonorhynchinæ*) of the Oriolidæ.

1871.—Elliot, 'Proceedings of the Zoological Society of London.'

A review of the genus *Ptiloris* is given, with a rectification of synonymy, and *P. Alberti* described for the first time as distinct from *P. magnifica*. Species 29.

1871.—Schlegel, 'Tijdschrift voor de Dierkunde.'

Sericulus xanthogaster and *Ptilonorhynchus inornatus* first described as distinct species, from New Guinea. Species 31.

1872.—Elliot, 'Ibis.'

A paper upon some of the species of Paradiseidæ, in which two genera are described, namely *Xanthomelus* and *Amblyornis* for the *Sericulus aureus* and *Ptilonorhynchus inornatus* respectively, and the *Sericulus xanthogaster*, Schleg., referred to the genus *Chlamydodera*, as being the nearest allied to the *C. cervineiventris*, Gould.

1873.—Sclater, 'Proceedings of the Zoological Society of London.'

Drepanornis Albertisi and *Paradisea Raggiana* described. Species 33.

CLASSIFICATION.

To the majority of persons a Bird of Paradise is a creature possessed of a mass of elegant and brightly coloured waving plumes, these not unfrequently springing from unusual—indeed, almost incredible places. It may therefore, perhaps, be a subject of surprise that I should include in the family of the Paradiseidæ several plain birds remarkable in no degree for their plumage, and in some instances devoid entirely of that excessive and often exquisite adornment which the typical members of the family possess in such an eminent degree. But I believe I am fully warranted in admitting among the Paradiseidæ all the species that are enumerated in this volume; and although some may not possess altogether the *dress* of a Bird of Paradise, they nevertheless show their affinity to them by peculiar habits, and by the exhibition of an unusual economy, not forgetting to mention also a resemblance in osteological structure.

An unbroken line of arrangement for the Paradiseidæ is impossible; for, as is the case with nearly all ornithological groups, many links in the chain are wanting, and these have to be supplied by more or less plausible theories. These, however, do not affect to any great degree the reasons that have permitted the species treated of in this Monograph to be regarded as members of the family. I have deemed it unnecessary to divide the entire group into more than three subfamilies, viz. Paradiseinæ, Epimachinæ; and for the third I would propose the term Tectonarchinæ, comprising those species which are in the habit of erecting bowers in which to disport themselves and exhibit their plumage. The first of these subfamilies contains the typical Birds of Paradise and their allies, and would be represented by the following genera:—*Paradisea, Manucodia, Astrapia, Parotia, Lophorina, Diphyllodes, Xanthomelus, Cicinnurus, Paradigalla,* and *Semioptera.* The second possesses those species which are characterized by long, slender, somewhat curved bills; they are:—*Epimachus, Drepanornis, Seleucides,* and *Ptiloris.* And the third is composed of five genera, viz. *Sericulus, Ptilonorhynchus, Chlamydodera, Ælurœdus,* and *Amblyornis.* I am well aware that the present arrangement and restriction of the genera and species of the birds constituting the Paradiseidæ is very different from that of any author who has had occasion to treat of the family. With the majority the genera included above have been widely separated in the various classifications attempted, and not only have they constituted portions of different families, but they have even been arranged under distinct Orders. The older authors, such as Linnæus and Gmelin, knew comparatively few of the species included in this Monograph; and the latter placed them all in the genera *Paradisea* and *Upupa* of the order Picæ. Cuvier arranges those species that were known to him, some in the genus *Paradisea* in the family Conirostres of his Passeraux, and the rest in the fourth family, or Tenuirostres, of the same order. Vieillot has them in the seventh family of his Anisodactyli, just preceding the Corvidæ. Lesson places all the species with which he was acquainted in the family Paradisei, excepting his genus *Phonygama* (*Manucodia* of this work), which he puts in the family Laniidæ, tribe Dentirostres. Gray, in his great work on the genera of birds, scatters the species included in this Monograph among various tribes and families. The Paradiseidæ he makes the second family of the tribe Conirostres, and restricts them to seven species—*P. apoda, P. minor, P. sanguinea, P. speciosa, P. regia, P. atra, P. sexpennis,* ranging them all under the genus *Paradisea*; *Phonygama* is placed among the Corvidæ of the same tribe. *Epimachus*, in which he also includes the species of *Ptiloris* and *Seleucides*, he makes his second subfamily of the Upupidæ (of the tribe Tenuirostres in the order Passeres). *Sericulus* is placed in the fourth subfamily, Oriolinæ, of the Turdinæ, tribe Dentirostres; while *Chlamydodera, Ptilonorhynchus*, and *Astrapia* are found in the first subfamily of the Sturnidæ, tribe Conirostres. Schlegel extends the Paradiseidæ further than I am able to follow. He places it in his Coraces, and comprises all his genera in one subfamily, Paradiseæ. The genera are:—*Paradisea, Epimachus, Sericulus, Oriolus, Ptilonorhynchus, Chalybeus, Cracticus* and *Lycocorax*, arranged as enumerated, and containing all the species composing this Monograph, and some more, but having little affinity with the Paradiseidæ, that I am able to discover. Cabanis, in the 'Museum Heineanum,' places this family among the Oscines, making *Sericulus* follow close after *Oriolus* of the Oriolinæ, and separated from *Chlamydodera* and *Ptilonorhynchus* (also placed in the same subfamily) by *Sphecotheres*. The second subfamily (Paradiseinæ) contains the true Birds of Paradise; while the third (Epimachinæ) comprises the species allotted to it in the present work. Bonaparte has divided the members of the Paradiseidæ, as here restricted, to a greater degree than almost any other author. Epimachidæ and Paradiseidæ constitute respectively the fifty-eighth and fifty-ninth families of his Passeres, tribe Volucres; *Sericulus* is placed in the family Oriolidæ, *Phonygama* in the Garrulidæ, as are also *Chlamydodera* and *Ptilonorhynchus*; and *Astrapia* and *Paradigalla* are found in the family Sturnidæ. Blyth, in his 'Catalogue of Birds in the Museum of the Asiatic Society,' makes the Paradiseidæ a subfamily (Paradiseinæ) of the Corvidæ, and includes, besides *Paradisea apoda, papuana*, and *sanguinea* and *(Cicinnurus) regius* and *paradiseus (Ptiloris), Sericulus (Chrysocephalus) melinus, Ptilonorhynchus holosericeus (violaceus), P. Smithi (Ælurœdus crassirostris)*, and *Corcorax leucopterus*—thus, with the exception of the last species, agreeing mainly with the arrangement I have made of the family in the present work.

It will thus be seen that authors generally have considered that the species which I have deemed to compose the Paradiseidæ belonged to many families and orders, but that they have in no wise agreed among themselves as to the proper disposition of the species. It is often a matter of great difficulty to give an animal its right position in the natural system; and an acceptable arrangement of the members in any group can only be effected after a careful investigation and comparison have been made as to their natural affinities in both their anatomical structure and outside covering; and this unfortunately is in very many instances impossible, the necessary material not being available to enable such studies to be carried out. Animals that present no outward similarity, so far as their appearance goes, often prove their affinities to each other by the exhibition of the same habits; and when these last are unusual and cause their possessors to be conspicuous members of the fauna in the district which they inhabit, it would be very unwise to pass them over as of no consequence in the animal's systematic position, and to regard them only as resulting from eccentric dispositions bestowed for no special purpose. In restricting the Paradiseidæ to the species contained in this work, I have been influenced both by their osteological affinities and in the case of such genera as compose my third subfamily, Tectonarchinæ, by their possessing the same extraordinary habit of bower-building, from which they have derived their trivial name. Some of the reasons which have induced me to consider the Tectonarchinæ members of this family are the following:—*Sericulus*, whose single species is unquestionably a Bower-bird, possesses on the head the peculiar, firm, upright, and closely pressed feathers which constitute one of the chief characteristics of the true Birds of Paradise, and by this, together with its osteological structure, exhibits its close affinity to the members of the genus *Paradisea*. In its habit of constructing a bower, in which both sexes are accustomed to practise various evolutions for their amusement, we have a similarity of economy to the typical Bower-birds, and one of such an unusual character as to make it of paramount importance when looking for the natural affinities of these birds. But the relationship of the members of this subfamily to those of the Paradiseinæ is further shown in the fact that, although the species of true Bower-birds composing the genus *Chlamydodera* do not possess feathers upon the head of a like texture as is to be seen in *Sericulus* and *Paradisea*, yet some of them exhibit in their brilliant nuchal crests, observable on the males, an affinity to another genus of Paradise-birds, that of *Diphyllodes*, which has, also only in the males, a similar adornment, but of a more exaggerated form. With regard to the osteological structure of the Bower-birds and true Birds of Paradise, Dr. Murie has been kind enough at my request to make comparisons between the skeletons in the British Museum (of three species), with the following results:—

SIMILARITIES.

Paradisea papuana.	*Sericulus melinus.*	*Ptilonorhynchus violaceus.*
Skull :		
General contour of occiput	Alike in all three species.	
Temporal groove		
Mandible, angle &c.		
Mandible in its posterior interosseous space		
Proportions of bill		
Sternum and Shoulder-girdle :		
Notch of sternum deeply cleft.	Proportionally less so in *S. melinus* and *P. violaceus.*	
Excepting this, the sternum and shoulder-girdle in all three species have a very close resemblance.		
Pelvis :		
Very nearly alike; but in *S. melinus* and *P. violaceus* the pubes are wider and larger.		
Tarsus :		
Has a well-marked anterior upper grooving.	Less.	Intermediate between the other two.

DISTINCTIONS IN SKULL.

Paradisea papuana.	*Sericulus melinus.*	*Ptilonorhynchus violaceus.*
Nasal orifices round, basal.	Elongate-oval.	,, ,,
Mandible wider at base or root than maxillaries.	Narrower.	,, ,,
Rudimentary basipterygoids present.	Totally wanting.	,, ,,
The general construction of the base of the skulls is of a similar type, excepting the		
Vomer, which is cleft posteriorly.	Partially or not cleft.	Intermediate between the other two.

It will thus be seen from the above comparisons, that, with the exception of the skull, there is no difference of any consequence exhibited in the osteological structures of the three species, and even in the skull itself the chief point is that the vomer of *Paradisea* is cleft, while that of the other two are only partially so; but this fact in itself is not sufficient to exclude the Bower-birds from the family Paradiseidæ, since it is not by any means a constant character; for some Passeres have a cleft vomer and others have not. The anterior upper grooving in the tarsus of *Paradisea* is strongly marked, but hardly perceptible in *Sericulus.* In *Ptilonorhynchus,* however, it is clearly present, though not to so great an extent as in *Paradisea,* thus appearing to be an intermediate state, and connecting the two other genera. The Regent birds and Bower-birds are, then, closely connected both in their osteological structure and economy; and in whatever family the one is placed the other must of necessity go also; and as the first in its plumage (which is essentially of the character of that of the true Birds of Paradise) and also in its skeletal structure shows a close affinity to *Paradisea,* it follows that its natural position would be in the same family as the species of that genus.

In the economy of the members of the true Birds of Paradise and the Bower-birds there is a similarity of habit that should not be passed over without notice; this is, the custom of each to indulge in eccentric movements at certain periods of the year. Thus, as is well known, the Bower-birds disport themselves in their slender structures; and Mr. Wallace has also shown us how the *Paradisea apoda* have their "sacaleli" or dancing parties in the trees, when the males assume all kinds of strange positions, and elevate and display their plumes in an extraordinary way. It is not at all improbable that all the members of this family possessed of unusual plumage have also methods of exhibiting the beauties of their dress in a like extravagant manner.

It is very evident that the true position of the Paradiseidæ, in the natural system, is just before the Corvidæ; and from the members possessing various and important characters by which they differ altogether from the species composing that group, I would raise them to the rank of an independent family, and not, as Mr. Blyth has done, consider them only a subfamily of the Crows. Like those of many other families of birds, the members of the present one, although connected as I have shown by many prominent and peculiar features, do also possess certain characters that would seem to show an inclination to species belonging to other groups. Thus *Seleucides alba* would appear to incline towards *Irrisor,* their elongate præmaxillæ being not unlike, though differing materially at the root and at the junction with the prefrontals; yet there are too many radical and important dissimilarities for them ever to be classed in the same family. With regard to Upupidæ, in which some authors have placed certain Birds of Paradise *, Dr. Murie has shown that the members of the two families are not nearly related.

GENERA.

To the various members of this family many genera have at times been assigned; and in a great number of instances more cogent reasons can be given for such a procedure than is generally the case when these divisions have been instituted in some other branches of ornithology.

The wide divergence in form and structure of the plumes of the species of Paradiseidæ seems to call for a rather larger number of generic distinctions than is usual when comparatively such a few number of species are considered; but I believe that sufficient grounds exist for us to recognize those that have been adopted in this work. Of course many proposed genera have been instituted upon insufficient grounds, and others would not answer for even subgeneric divisions. The following are all the genera that have been proposed since the time of Linnæus:—

1760.—*Paradisea*, Linnæus, Systema Naturæ	Type *Paradisea apoda.*
1783.—*Manucodia*, Boddaert, Tableau des Planches Enluminées de Buffon .	Type *Manucodia chalybea.*
1816.—*Astrapia*, Vieillot, Analyse	Type *Astrapia nigra.*
Parotia, ,, ,, ...	Type *Parotia sexpennis.*
Lophorina, ,, ,, ...	Type *Lophorina atra.*
Falcinellus, ,, ,, (Preoccupied)	Type *Epimachus speciosus.*
1817.—*Epimachus*, Cuvier, Règne Animal	Type ,, ,,
1820.—*Ptilonorhynchus*, Kuhl, Beiträge zur Zoologie	Type *Ptilonorhynchus violaceus.*
1823.—*Cicinnurus*, Vieillot, Tableau Encyclopédique et Méthodique . . .	Type *Cicinnurus regius.*
1825.—*Ptiloris*, Swainson, Zoological Journal	Type *Ptiloris paradiseus.*
Sericulus, ,, ,, ,, ...	Type *Sericulus melinus.*
1828.—*Phonygama*, Lesson, Manuel d'Ornithologie	Type *Manucodia Keraudreni.*
1835.—*Seleucides*, Lesson, Oiseaux de Paradis	Type *Seleucides alba.*
Diphyllodes, ,, ,, ,, ...	Type *Diphyllodes speciosa.*
Cinnamolegus, ,, ,, ,, ...	Type *Epimachus speciosus.*
Paradigalla, ,, ,, ,, ...	Type *Paradigalla carunculata.*
1836.—*Calodera*, Gould, Proceedings of the Zoological Society	Type *Chlamydodera maculata.*
1837.—*Chlamydera*, Gould, Birds of Australia	Type ,, ,,
1840.—*Nematophora*, G. R. Gray, List of the Genera of Birds	Type *Seleucides alba.*
1848.—*Craspedophora*, G. R. Gray, Gen. of Birds	Type *Ptiloris magnificus.*
1850.—*Chlamydodera*, Cabanis, Museum Heineanum	Type *Chlamydodera nuchalis.*
Æluredus, ,, ,, ,, ...	Type *Æluredus crassirostris.*
1854.—*Xanthomelus*, Bonaparte, Ann. d. Sc. Nat., Ser. iv. Zool. (1854) desc. null. .	Type *Xanthomelus aureus.*

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* Ibis, April 1873.

1860.—*Semioptera*, G. R. Gray, Proceedings of the Zoological Society	Type *Semioptera Wallacii.*
1866.—*Schlegelia*, Bernstein, Nederlandsch Tijdschrift voor de Dierkunde	Type *Diphyllodes respublica.*
1872.—*Amblyornis*, Elliot, Ibis	Type *Amblyornis inornata.*
1873.—*Drepanornis*, Sclater, Proceedings of the Zoological Society	Type *Drepanornis Albertisi.*

I here review the species of the family, adding whatever information may have been received of any of them since the articles accompanying the plates of the birds were published.

REVIEW OF THE FAMILY.

Family PARADISEIDÆ.

Subfamily PARADISEINÆ.

Genus PARADISEA.

Paradisea, Linn. Syst. Nat. (1760) vol. i. p. 166. Type *P. apoda.*

1. *Paradisea apoda*	Plate II.
2. *Paradisea Raggiana*	Plate III.
3. *Paradisea minor*	Plate IV.
4. *Paradisea sanguinea*	Plate V.

Genus MANUCODIA.

Manucodia, Bodd. Tab. Plan. Enl. de Buffon (1783). Type *M. chalybea.*

5. *Manucodia chalybea*	Plate VI.
6. *Manucodia atra*	Plate VII.
7. *Manucodia Keraudreni*	Plate VIII.

Genus ASTRAPIA.

Astrapia, Vieill. Analyse (1816), p. 36. Type *A. nigra.*

8. *Astrapia nigra*	Plate IX.

Genus PAROTIA.

Parotia, Vieill. Analyse (1816), p. 35. Type *P. sexpennis.*

9. *Parotia sexpennis*	Plate X.

M. d'Albertis, the latest traveller in New Guinea, writes as follows regarding this bird:—"Although this species has been known many years, it is not yet accurately understood, having only been described from birds in a mutilated condition. My observations have been made in the natural haunts of these elegant birds, from numerous specimens both living and dead. These birds are found in the north of New Guinea. I met with them about thirty miles from the coast, at an elevation of 3600 feet above the level of the sea, near Mount Arfak. I have never found the adult male in company with females or young birds, but always in the thickest parts of the forests; the females and young birds I have generally found in a much lower zone. This Paradise-bird is very noisy, uttering a note like '*Guaad-guaad;*' it feeds upon various kinds of fruits, more especially on a species of fig which is very plentiful in the mountain-ranges; at other times I have observed it feeding on a small kind of nutmeg. To clean its rich plumage this bird is in the habit, where the ground is dry, to scrape, similar to a gallinaceous bird, a round place clear of all grass and leaves, and in the dust produced by the clearing to roll over and over again, at the same time crying out, extending and contracting its plumage, elevating the brilliant silvery crest on the upper part of its head, and also the six remarkable plumes from which it derives the specific name of *sexpennis*. On seeing its eccentric movements at this time, and hearing its cries, one would consider it to be engaged in a fight with some imaginary enemy. This bird is named '*Caran-a*' by the natives. I have also a skeleton of a young male of this species, which, although not in a perfect state, may no doubt be interesting as showing the form of the cranium, on which there is an admirable muscular structure which enables the bird to elevate the feathers of the head. The feathers at the nape of the neck exhibit, when the rays of light strike upon them, a rich and brilliant metallic hue. The eyes are of a light blue, with a circle of a pale yellowish green colour."

Genus LOPHORINA.

Lophorina, Vieill. Analyse (1816), p. 35.

10. *Lophorina atra* . . . . Plate XI.

M. Albertis, who obtained this species in New Guinea, says "it is found in the same mountains as the last-named species (*P. sexpennis*), and feeds upon similar fruits. It flies from branch to branch in the forests, uttering a cry of '*nied-nied*,' and from this peculiar note is named by the natives '*Niedda*.' The muscles used in the elevation of the crest of *P. sexpennis* are surprising, but are surpassed in size by those of this bird; for with them it can extend, contract, elevate, and depress the long velvet feathers which, commencing a little below the occiput, extend along the body like a mantle; and when this is elevated, the two feathers, horns, or tufts at the root of the beak are raised at the same time."

Genus DIPHYLLODES.

Diphyllodes, Lesson, Ois. Parad. (1835) p. 16. Type *D. speciosa*.

11. *Diphyllodes speciosa* . . . . Plate XII.
12. *Diphyllodes speciosa*, var. *chrysoptera* . . . . Plate XIII.
13. *Diphyllodes respublica* . . . . Plate XIV.

Genus XANTHOMELUS.

Xanthomelus, Bonap. Ann. d. Sc. Nat., Ser. iv. Zool. (1854) p. 122, desc. null. Characterized, Elliot, Ibis, 1872. Type *X. aureus*.

14. *Xanthomelus aureus* . . . . Plate XV.

Genus CICINNURUS.

Cicinnurus, Vieill. Ency. Méthod. (1823) t. iii. p. 908.

15. *Cicinnurus regius* . . . . Plate XVI.

Genus PARADIGALLA.

Paradigalla, Less. Ois. de Paradis (1835), p. 242. Characterized Rev. Zool. (1840) p. 1. Type *P. carunculata*.

16. *Paradigalla carunculata* . . . . Plate XVII.

Genus SEMIOPTERA.

Semioptera, G. R. Gray. Not characterized by this author. Type *S. Wallacii.*

17. *Semioptera Wallacii*	Plate XVIII.

Subfamily EPIMACHINÆ.

Genus EPIMACHUS.

Epimachus, Cuv. Règ. Anim. (1817) p. 407. Type *E. speciosus.*

18. *Epimachus speciosus*	Plate XIX.
19. *Epimachus Ellioti*	Plate XX.

Genus DREPANORNIS.

Drepanornis, Sclater, Proc. Zool. Soc. Type *D. Albertisi.*

20. *Drepanornis Albertisi*	Plate XXI.

This species has also been described by Dr. A. B. Meyer in the Tijd. voor de Dierk. in Batavia, as *Epimachus Wilhelminæ*; but Dr. Sclater's name of *D. Albertisi* has priority, and the other must become a synonym.

Genus SELEUCIDES.

Seleucides, Less. Ois. Parad. (1835) p. 36. Type *S. alba.*

21. *Seleucides alba*	Plate XXII.

Genus PTILORIS.

Ptiloris, Swainson, Zool. Journ. (1825) p. 481. Type *P. paradiseus.*

22. *Ptiloris magnificus*	Plate XXIII.
23. *Ptiloris Alberti*	Plate XXIV.
24. *Ptiloris paradiseus*	Plate XXV.
25. *Ptiloris Victoriæ*	Plate XXVI.

Subfamily TECTONARCHINÆ.

Genus SERICULUS.

Sericulus, Swainson, Zool. Journ. (1825) vol. i. p. 476. Type *S. melinus.*

26. *Sericulus melinus*	Plate XXVII.

Genus PTILONORHYNCHUS.

Ptilonorhynchus, Kuhl, Beit. Zool. (1820) p. 150. Type *P. violaceus.*

27. *Ptilonorhynchus violaceus*	Plate XXVIII.
28. *Ptilonorhynchus Rawnsleyi*	Plate XXIX.

Genus CHLAMYDODERA.

Chlamydodera, Cab. Mus. Hein. (1850) vol. i. p. 212. Type *C. nuchalis.*

29. *Chlamydodera maculata*	Plate XXX.

30. *Chlamydodera nuchalis* . . . . Plate XXXI.
31. *Chlamydodera cerviniventris* . . . . Plate XXXII.
32. *Chlamydodera xanthogastra* . . . . Plate XXXIII.

Chlamydodera guttata, Gould, Proc. Zool. Soc. (1862) p. 161. Not figured.

This bird has been separated as distinct from the *C. maculata* by Mr. Gould. He only had a female upon which to found his opinion; and the characters he gives are as follows:—"It differs in the guttations of the upper surface being of a larger size and much more distinct, in the abdomen being buff, and in the shafts of the primaries being of a richer yellow." The specimen here described was obtained by Mr. Gregory in North-western Australia. Mr. Stuart, in his journey from Adelaide to the Victoria River, procured a head of a male Bower-bird, which he left at Mr. Gould's house on his return: and this was decided to be the male of the *C. guttata*, although it shows no specific differences from the ordinary form. Mr. Gould's figure of this male in his 'Birds of Australia,' vol. i. Supplement, with the exception of the head, is imaginary. I am unable to see any characters in the female sufficient to separate it from the well-known *C. maculata*, and, until we have more evidence that it is distinct than is at present obtainable, prefer to consider that there is only one species of Spotted Bower-bird.

Genus ÆLURŒDUS.

Ælurœdus, Cab. & Hein. Mus. Hein. (1850) p. 213. Type *Æ. crassirostris.*

33. *Ælurœdus crassirostris* . . . . Plate XXXIV.
34. *Ælurœdus melanotis* . . . . Plate XXXV.

Some specimens of this species are very much darker than the one figured in the plate, and possess a considerable amount of black on the plumage, particularly about the head and upper part of breast. This does not seem to be occasioned either by age or sex.

35. *Ælurœdus buccoides* . . . . Plate XXXVI.

Genus AMBLYORNIS.

Amblyornis, Elliot, Ibis (1872), p. 113. Type *A. inornata.*

36. *Amblyornis inornata* . . . . Plate XXXVII.

GEOGRAPHICAL DISTRIBUTION.

The Paradiseidæ are entirely confined in their geographical distribution to the Australian, or Western Palæotropical region of the globe, the larger number of the species being natives of some of the islands forming the Asiatic archipelago. Their range, however, even among these, is apparently restricted; for of the five groups into which Mr. Wallace has divided the various islands, in only two of them, the Moluccan and Papuan, are any species of this family known to dwell.

Of the Papuan group, in the Austro-Malayan division of the archipelago, the great island of New Guinea possesses the largest number of species; and doubtless among its unknown mountain-ranges and the dense forests that cover its entire surface, many new forms yet remain to reward the efforts of future explorers.

Of the thirty-six species, or so-called species, included in this Monograph, composing the Paradiseidæ, twenty-two are known to inhabit New Guinea; and of these, twelve are met with in no other part of the world. The other islands constituting the Papuan group, such as Aru, Waigiou, Mysol, Salwatty, &c., also contain species of this family; but none of them has any species peculiar to itself, although Mr. Wallace states that *Paradisea sanguinea* is confined to Waigiou. This, however, is an error, as the species was obtained by Mr. Bernstein in the islands of Ghemien and Batanta, this last lying near Salwatty, off the coast of New Guinea. At some remote period these two divisions, Moluccan and Papuan, were doubtless united, and also the continent of Australia was joined to New Guinea; and in the vast extent of land thus forming one mighty continent the Birds of Paradise found their home. That portion of it now known as the island of New Guinea, however, was probably most suited, in its formation, climate, and productions, to the sustenance and development of these birds; for at the present day so many species still inhabit it that we must look upon that island as the district in which the family had its origin.

That a great length of time has elapsed since this continent was divided and its northern portion broken up into large and small islands as we now see it, is very evident from the presence in some of these groups of various forms of animal life that are restricted to certain of the smaller islands, and which present characters not seen elsewhere. In the case of the Paradiseidæ, for instance, there is the notable example of the *Semioptera Wallacii*, which is only found in Batchian and Gilolo of the Moluccan group, and nowhere else to my knowledge, thus showing that these two islands have been separated from New Guinea a sufficient length of time to produce a creature differing in its generic as well as its specific characters from any form of bird-life that existed when these islands were not isolated from their great neighbour. In the same way the non-presence, in the smaller islands, of certain species which are now living in New Guinea and were also existing, as we may fairly suppose, when all the groups were united, may be accounted for by the fact that, as most of the Paradiseidæ are dwellers in mountain-ranges, some of very high altitudes, only those individuals of existing New-Guinea species which met with similar physical conditions of climate, food, and soil, in the islands to which they found themselves perhaps suddenly restricted, would be able to maintain life in an unchanged form—and that whenever they became exposed to influences different from those to which they had always been accustomed, they either succumbed and disappeared altogether, or else became adapted to their new home by the gradual assumption of a different form more suitable to their changed mode of existence. It is only in this manner that we can account for the restricted habitats of some species of this family, and for the fact that others with no greater powers for passing over considerable distances are inhabitants of more than one island. The species of the family of the Birds of Paradise are restricted in their distribution, then, to New Guinea and to several of the islands in its immediate vicinity, with a few outlying branches upon the neighbouring continent of Australia. To commence with the district which we may call *par excellence* the home of the Birds of Paradise, we find the mountain-ranges of the interior of New Guinea are the sole habitat of the following species:—*Paradisea Raggiana, Astrapia nigra, Parotia sexpennis, Lophorina atra, Paradigalla carunculata, Epimachus speciosus, Epimachus Ellioti, Drepanornis Albertisi, Ptiloris paradisea, Chlamydodera xanthogastra*, and *Amblyornis inornata*, none of which have ever been met with at any point on the coast. Our knowledge of these species had always been confined to mutilated native skins until about a year ago, when M. von Rosenberg and, still later, M. d'Albertis procured the birds in the interior, some at an elevation of from 4000 to 5000 feet. Of the other species inhabiting the same island, *Xanthomelus aureus* and *Manucodia atra* have been procured on the coast near to Dorey, and *Ptiloris magnificus* at both Dorey and the environs of the Bay of Lobo. On the north-eastern coast *Paradisea minor, Diphyllodes speciosa, Cicinnurus regius, Manucodia chalybea*, and *Ælurœdus buccoides* have been met with. *Seleucides alba* has been obtained at the head of the great Bay of Geelwink; and Mr. Allen, Mr. Wallace's assistant, also procured the same species among the mountains behind Sorong, a place on the mainland, nearly opposite the island of Salwatty; and it is possible that this beautiful species may inhabit the whole extent of territory between these two points. The singular species known as *Paradigalla carunculata* has been obtained only by Lesson, when at New Guinea during the voyage of the 'Bonite;' and its exact habitat is not as yet known. At Sorong, also on the north-west coast, the beautiful little *Cicinnurus regius* has been procured, together with the *Diphyllodes speciosa, Manucodia Keraudreni*, and *Paradisea minor*. The island of Salwatty, lying closest to New Guinea, possesses no species peculiar to itself, but contains only those that are met with on the mainland nearest to its position. They are *Cicinnurus regius, Diphyllodes speciosa, Seleucides alba, Manucodia atra, Xanthomelus aureus*, and *Ælurœdus buccoides*. The island of Mysol, lying to the south-west of Salwatty, has three species of this family, viz. *Paradisea minor, Cicinnurus regius*, and *Diphyllodes speciosa*, and is apparently the furthest point westward that any of the Paradiseæ reach. Batanta, lying close to and north of Salwatty, contains three species—the *Paradisea sanguinea, Diphyllodes respublica*, and *Ælurœdus buccoides*, all of which are also inhabitants of Waigiou—which is rather singular, as Batanta, in its geographical position, lies much nearer to Salwatty; but the presence of these Birds of Paradise within its confines would seem to indicate that it separated from Waigiou at a later period than it did from Salwatty, as it contains no species of Paradiseæ met with in the last-named island. Waigiou also contains the New-Guinea species *Manucodia atra*.

The large island of Gilolo, and its neighbour Batchian, contain but one species of this family, the *Semioptera Wallacii*; and this is the furthest north that any of the Paradiseæ are found. The islands of Jobie, Biak, and Sook, lying at the mouth of the great Bay of Geelwink, contain the *Paradisea minor*, which is found upon them all, while upon the large island of Jobie, lying furthest in the bay and almost touching the eastern shore of New Guinea, two other species, the *Cicinnurus regius* and *Diphyllodes speciosa*, are also found. The specimens of *Paradisea minor* procured from Jobie are remarkable for their size and the brilliant colour of their flowing plumes; and some equal in extent *P. apoda*; but they cannot in any way be regarded as possessing specific characters to separate them from individuals of *P. minor* procured elsewhere. At Mount Arfak, near the Bay of Geelwink, M. d'Albertis procured the beautiful *Paradisea raggiana* and the extraordinary *Drepanornis Albertisi*. The Aru group of islands lying to the south of New Guinea contains five species of this family—the *Paradisea apoda* and *Ælurœdus melanotis* (the last of which is not met with elsewhere), *Cicinnurus regius, Chalybea atra*, and *Manucodia Keraudreni*.

The continent of Australia contains several species that I regard as belonging to the family of the Paradiseidæ; and the first which I mention is the *Ptiloris Alberti*, found in the north-eastern part, on the peninsula known as Cape York, that stretches upwards towards New Guinea, with which at one time it was doubtless connected. This species has been confounded with the *Ptiloris magnificus* by all authors; but it is very distinct at the present day, although it probably had the same origin as the New-Guinea form. Off the north-eastern coast, on the Barnard Islands, another species of *Ptiloris* is found—*P. Victoriæ*, which seems to be restricted to this group. It is very closely allied to the *P. paradiseus* of New Guinea, but has been generally recognized as distinct. Upon the northern coast, in the vicinity of Port Essington, the *Chlamydodera nuchalis* is met with; but how far it proceeds into the interior is unknown. At Cape York is also found the *Chlamydodera cerviniventris*, which has its nearest ally in the *C. xanthogastra* of the interior of New Guinea. On the eastern coast the *Sericulus melinus* is found as far south as Sydney, which seems to be its limit in that direction; while New South Wales appears to be the habitat of *Ptilonorhynchus violaceus, Ælurœdus crassirostris*, and *Chlamydodera maculata*.

By the foregoing review of the geographical distribution of the members of the Paradiseidæ we see that some species are restricted, in certain cases, to one single group of islands—while others inhabit several situated widely apart, such as *Diphyllodes speciosa* and *Seleucides alba*, which are found on both sides of New Guinea; and we can only account for this rather curious fact by the supposition that they also inhabit the mainland across its whole extent. Another singular fact is that the same species, such as *Semioptera Wallacii*, which inhabits contiguous islands of the same group, begins to show in individuals from different localities, such as Gilolo and Batchian, an inclination to assume a distinct style of dress, which will probably in the course of time cause them to be ranked as distinct species; while other species, such as *Diphyllodes speciosa*, inhabiting islands widely separated, presents in all the localities in which it is known to occur the same style of form and plumage. There is indeed, in the specimen called by Mr. Gould *Diphyllodes chrysoptera*, a tendency to assume a greater intensity of colour upon certain parts of its plumage; but as we do not know where the bird was procured, and as it can hardly be said at present to be more than a local style of *D. speciosa* (even if it be hereafter ascertained to be from another island than any in which the typical form occurs), it is not as yet sufficient to indicate why *S. Wallacii* should undergo a certain change and *D. speciosa* not.

Even the *Paradisea minor*, the most widely distributed of all the Birds of Paradise, so far as our present knowledge enables us to judge, does in certain islands, as has been already mentioned when speaking of Jobie, differ from what has always been considered the typical style, and in its greater size approaches so nearly to that of *P. apoda* that its specific name of *minor* seems inappropriate; while the more lengthened plumes and deeper colour of these specimens cause them to be conspicuous even when lying by the side of others of the same species having different habitats. It would thus seem that (perhaps in the majority of instances) when a species inhabits different islands separated more or less widely apart, and in each one presents a style peculiar to itself and differing in certain points from what may be regarded as the typical form, it cannot by any means be deemed a fact that, merely because an animal does inhabit two or more islands, individuals from each must of necessity be distinct from the type. The distribution of the genera of the Paradiseidæ does not give any clue to explain the apparently arbitrary habitats of many of the species. The larger number of them are met with in New Guinea, some restricted to it, while others are represented in the neighbouring islands and continent of Australia. Besides New Guinea, only one island, or rather group, possesses a genus peculiar to itself—Gilolo and Batchian, where *Semioptera* is found; while *Sericulus* and *Ptilonorhynchus* are confined to Australia, the last being a form closely allied to *Chlamydodera*, which, however, has its representative in the interior of New Guinea, apparently a straggler, as our limited knowledge causes us to view it, because, with this single exception, all the species of this last-named genus are found in Australia, which would therefore appear to be the division of the earth in which it was originally produced.

The following review exhibits more minutely the geographical distribution of the species.

PARADISEA.

Range of the Genus.

Papuan Group of the Australian Region.

Range of the Species.

1. *Paradisea apoda.* Aru Islands and perhaps parts of New Guinea.
2. *Paradisea raggiana.* Mountains around Arangesia Bay, New Guinea.
3. *Paradisea minor.* Wide distribution. Met with in New Guinea, Mysol, Salwatty, Waigiou, Jobie, Biak, and Sook.
4. *Paradisea sanguinea.* Restricted to the islands of Batanta, Ghemien, and Waigiou.

MANUCODIA.

Range of the Genus.

Papuan Group and mainland of Australia.

Range of the Species.

1. *Manucodia chalybea.* Island of New Guinea and Australian continent.
2. *Manucodia atra.* Islands of New Guinea and Waigiou.
3. *Manucodia Keraudreni.* New Guinea and peninsula of Cape York.

ASTRAPIA.

Range of the Genus.

New Guinea.

Range of the Species.

Astrapia nigra. Only found in the island of New Guinea.

PAROTIA.

Range of the Genus.

New Guinea.

Range of the Species.

Parotia sexpennis. New Guinea is the only known habitat of this species.

LOPHORINA.

Range of the Genus.

New Guinea.

Range of the Species.

Lophorina atra. Only found in New Guinea.

DIPHYLLODES.

Range of the Genus.

Papuan Group.

Range of the Species.

1. *Diphyllodes speciosa.* Found in New Guinea, Salwatty, Waigiou, Mysol, and Jobie.
2. *Diphyllodes speciosa,* var. *chrysoptera.* The locality where this form is found is at present unknown.
3. *Diphyllodes respublica.* Met with in the islands of Batchian and Waigiou.

XANTHOMELUS.

Range of the Genus.

New Guinea and Salwatty.

Range of the Species.

Xanthomelus aureus. Only seen in New Guinea and neighbouring island of Salwatty.

CICINNURUS.

Range of the Genus.

Papuan Group.

Range of the Species.

Cicinnurus regius. Procured in New Guinea, Aru Islands, Mysol, Salwatty, and Jobie.

PARADIGALLA.

Range of the Genus.

New Guinea.

Range of the Species.

Paradigalla carunculata. Only known to inhabit New Guinea.

SEMIOPTERA.

Range of the Genus.

Moluccan Group.

Range of the Species.

Semioptera Wallacii. Islands of Gilolo and Batchian of the Moluccan Group.

EPIMACHUS.

Range of the the Genus.

New Guinea.

Range of the Species.

1. *Epimachus speciosus.* Only procured in New Guinea.
2. *Epimachus Ellioti.* Supposed to inhabit New Guinea.

DREPANORNIS.

Range of the Genus.

New Guinea.

Range of the Species.

Drepanornis Albertisi. Mount Arfak, New Guinea.

SELEUCIDES.

Range of the Genus.

Papuan Group.

Range of the Species.

Seleucides alba. New Guinea, and the island of Salwatty.

PTILORIS.

Range of the Genus.

New Guinea and Australia.

Range of the Species.

1. *Ptiloris magnificus.* Island of New Guinea.
2. *Ptiloris Alberti.* Peninsula of Cape York.
3. *Ptiloris paradiseus.* New Guinea.
4. *Ptiloris Victoriæ.* Barnard Islands, off the eastern coast of Australia.

SERICULUS.

Range of the Genus.

Australia.

Range of the Species.

Sericulus melinus. Eastern part of Australia.

PTILONORHYNCHUS.

Range of the Genus.

Australia.

Range of the Species.

1. *Ptilonorhynchus violaceus.* Eastern portion of the Australian continent.
2. *Ptilonorhynchus Rawnsleyi.* Hybrid. Obtained on the east coast of Australia.

CHLAMYDODERA.

Range of the Genus.

Australian continent and island of New Guinea.

Range of the Species.

1. *Chlamydodera maculata.* Procured in New South Wales.
2. *Chlamydodera nuchalis.* Obtained in the north-western part of Australia.
3. *Chlamydodera cerviniventris.* Only found in the peninsula of Cape York.
4. *Chlamydodera xanthogastra.* New Guinea is the sole habitat of this species.

ÆLURŒDUS.

Range of the Genus.

Papuan Islands and Australian continent.

Range of the Species.

1. *Ælurœdus crassirostris.* Met with only in New South Wales.
2. *Ælurœdus melanotis.* Aru Islands of the Papuan group.
3 *Ælurœdus buccoides.* Islands of New Guinea, Salwatty, Sorong, Batanta, and Waigiou.

AMBLYORNIS.

Range of the Genus.

New Guinea.

Range of the Species.

Amblyornis inornata. New Guinea is the habitat of the only known species.

GEOGRAPHICAL DISTRIBUTION OF THE GENERA OF THE PARADISEIDÆ.

		AUSTRALIAN REGION.																		
		Austro-Malayan Division.														Australia.				
		Papuan Group.												Moluccan Group.						
		New Guinea.	Aru Islands.	Mysol.	Salwatty.	Sorong.	Batanta.	Ghemien.	Waigiou.	Mysory.	Jobie.	Biak.	Sook.	Batchian.	Gilolo.	North-western.	Cape York.	Eastern.	New South Wales.	Barnard Islands.
Paradiseinæ	Paradisea	*	*	*	*	...	*	*	*	*	*	*	*							
	Manucodia	*	...	...	...	...	...	...	...	...	...	...	...	...	...	...	*			
	Astrapia	*																		
	Parotia	*																		
	Lophorina	*																		
	Diphyllodes	*	...	...	*	...	*	...	*	*	*									
	Xanthomelus	*	...	...	*															
	Cicinnurus	*	*	*	*	...	...	...	...	...	*									
	Paradigalla	*																		
	Semioptera	...	...	...	...	...	...	...	...	...	...	...	...	*	*					
Epimachinæ	Epimachus	*																		
	Drepanornis	*																		
	Seleucides	*	...	...	*															
	Ptiloris	*	...	...	...	...	...	...	...	...	...	...	...	...	...	...	*	...	...	*
Tectonarchinæ	Sericulus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	*		
	Ptilonorhynchus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	*	
	Chlamydodera	*	...	...	...	...	...	...	...	...	...	...	...	...	...	*	*	...	*	
	Ælurœdus	*	*	*	*	*	...	...	*	...	...	...	...	...	...	...	...	...	*	
	Amblyornis	*																		
		16	3	3	6	1	2	1	3	2	3	1	1	1	1	1	3	1	3	1

GEOGRAPHICAL DISTRIBUTION OF THE SPECIES OF THE PARADISEIDÆ.

	AUSTRALIAN REGION.																		
	Austro-Malayan Division.														Australia.				
	Papuan Group.												Moluccan Group.						
	New Guinea.	Aru Islands.	Mysol.	Salwatty.	Sorong.	Batanta.	Ghemien.	Waigiou.	Mysory.	Jobie.	Biak.	Sook.	Batchian.	Gilolo.	North-western.	Cape York.	Eastern.	New South Wales.	Barnard Islands.
1. Paradisea apoda	*?	*																	
2. —— Raggiana	*	...																	
3. —— minor	*	...	*	*	...	...	...	*	*	*	*	*							
4. —— sanguinea	...	...	...	...	...	*	*	*											
5. Manucodia chalybea	*																		
6. —— atra	*																		
7. —— Keraudreni	*	...	...	...	...	...	...	...	...	...	...	...	...	...	...	*			
8. Astrapia nigra	*																		
9. Parotia sexpennis	*																		
10. Lophorina atra	*																		
11. Diphyllodes speciosa	*	...	...	*	...	...	...	*	*	*									
12. —— chrysoptera?	...	...	...	...	...	...	?												
13. —— respublica	...	...	...	...	...	*	...	*											
14. Xanthomelus aureus	*	...	...	*															
15. Cicinnurus regius	*	*	*	*	...	...	...	...	...	*									
16. Paradigalla carunculata	*																		
17. Semioptera Wallacii	...	...	...	...	...	...	...	...	...	...	...	...	*	*					
18. Epimachus speciosus	*																		
19. Drepanornis Albertisi	*																		
20. Seleucides alba	*	...	...	*															
21. Ptiloris magnificus	*																		
22. —— Alberti	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	*			
23. —— paradiseus	*																		
24. —— Victoriæ	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	*
25. Sericulus melinus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	*		
26. Ptilonorhynchus violaceus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	*	
27. —— Rawnsleyi?	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	*	
28. Chlamydodera maculata	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	*	
29. —— nuchalis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	*				
30. —— cerviniventris	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	*			
31. —— xanthogastra	*																		
32. Ælurœdus crassirostris	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	*	
33. —— melanotis	...	*																	
34. —— buccoides	*	...	...	*	*	*	...	*											
35. Amblyornis inornata	*																		
	21	3	2	5	1	3	1	5	2	3	1	1	1	1	1	3	1	4	1

EXPLANATION OF THE ABBREVIATIONS

AND

LIST OF AUTHORS AND WORKS REFERRED TO.

Bechst. Kurze Ueber. *Bechstein, Kurze Uebersicht aller bekannten Vögel* &c.

Bernst. Nederl. Tijds. Dierk. *Bernstein, Nederlandsch Tijdschrift voor de Dierkunde.*

Blumenb. Abbild. natur. Gegen. *Blumenbach, Abbildungen naturhistorischer Gegenstände.*

Bodd. Tab. Plan. Enlum. *Boddaert, Tableau des Planches Enluminées de Buffon.*

Bon. Ann. Scien. Nat. *Bonaparte in the Annales des Sciences Naturelles.*

Bon. Consp. Gen. Av. *Bonaparte, Conspectus Generum Avium.*

Bonap. Compt. Rend. *Bonaparte in the Comptes Rendus.*

Briss. Hist. des Ois. *Brisson, Histoire des Oiseaux.*

Buff. Plan. Enlum. *Buffon, Planches Enluminées.*

Cab. Mus. Hein. *Cabanis, Museum Heineanum.*

Cass. Journ. Acad. Nat. Scien. *Cassin in the Journal of the Academy of Natural Sciences of Philadelphia.*

Cuv. Règn. Anim. *Cuvier, Règne Animal.*

Diggl. Austr. Orn. *Diggles, Australian Ornithology.*

Edw. Birds. *Edwards's Birds.*

Elliot, Ibis. *Elliot in The Ibis.*

Elliot, Proc. Zool. Soc. *Elliot in the Proceedings of the Zoological Society.*

Eyd. & Souley. Voy. de la Bonite. *Eydoux and Souleyet in the Voyage de la Bonite.*

Forst. Ind. Zool. *Forster, Indische Zoologie.*

Gmel. Syst. Nat. *Gmelin's edition of Linnæus's Systema Naturæ.*

Goodwin, Proc. Zool. Soc. *Goodwin in the Proceedings of the Zoological Society.*

Gould, Ann. & Mag. Nat. Hist. *Gould in the Annals and Magazine of Natural History.*

Gould, Birds of Austr. *Gould, The Birds of Australia.*

Gould, B. of Austr. Supp. *Gould, in Supplement to Birds of Australia.*

Gould, Hand-book B. Austr. *Gould, Hand-book to the Birds of Australia.*

Gould, Proc. Zool. Soc. *Gould in the Proceedings of the Zoological Society.*

Gould, Voy. Rattlesnake. *Gould, in the Voyage of the Rattlesnake.*

Gray, Gen. Birds. *G. R. Gray, Genera of Birds.*

Gray, Hand-l. Birds. *G. R. Gray, Hand-list of Birds.*

Gray, G. R., List Gen. Birds. *G. R. Gray, List of the Genera of Birds.*

Gray, Proc. Zool. Soc. *G. R. Gray, in the Proceedings of the Zoological Society.*

Gray, J. E., Illus. Ind. Zool. *J. E. Gray, Illustrations of Indian Zoology.*

Homb. et Jacq. Voy. au Pôle Sud. *Hombron and Jacquinot, Voyage au Pôle Sud.*

Jard. & Selb. Ill. Orn. *Jardine and Selby, Illustrations of Ornithology.*

Kuhl, Beytr. zur Zool. *Kuhl, Beyträge zur Zoologie.*

Lath. Gen. Hist. Birds. *Latham, General History of Birds.*

Lath. Gen. Syn. *Latham, General Synopsis.*

Lath. Ind. Orn. *Latham, Index Ornithologicus.*

Lerw. Birds N. Holl. *Lerwin, Birds of New Holland.*

Less. Cent. Zool. *Lesson, Centurie de Zoologie.*

Less. Man. Ornith. *Lesson, Manuel d'Ornithologie.*

Less. Ois. Parad. *Lesson, Oiseaux de Paradis.*

Less. Trait. Ornith. *Lesson, Traité d'Ornithologie.*

Less. Voy. Coquille. *Lesson in the Voyage de la Coquille.*

Levaill. Hist. Nat. Ois. Parad. *Levaillant, Histoire Naturelle des Oiseaux de Paradis.*

Levaill. Hist. Nat. des Promerops. *Levaillant, Histoire Naturelle des Promerops.*

Linn. Syst. Nat. *Linnæus, Systema Naturæ.*

Newton, Ibis. *Newton in the Ibis.*

Payk. N. Act. Upsal. *Paykull, in Nova Acta Regiæ Societatis Scientiarum Upsaliensis.*

Ramsay, Ibis. *Ramsay in The Ibis.*

Reich. Hand. der spec. Orn. *Reichenbach, Handbuch der speciellen Ornithologie.*

Schleg. Journ. für Ornith. *Schlegel in the Journal für Ornithologie.*

Schleg. Mus. Pays-Bas. *Schlegel, Museum des Pays-Bas.*

Schleg. Tijdsch. Dierk. *Schlegel, Nederlandsch Tijdschrift voor de Dierkunde.*

Sclat. Proc. Zool. Soc. *Sclater in the Proceedings of the Zoological Society.*

Scop. Flor. Faun. Insub. *Scopoli, Deliciæ Faunæ et Floræ Insubricæ.*

Shaw, Gen. Zool. *Shaw, General Zoölogy.*

Shaw, Nat. Misc. *Shaw in Naturalist's Miscellany.*

Sonn. Voy. Nouv. Guin. *Sonnerat, Voyage dans la Nouvelle Guinée.*

Swain. Class. Birds. *Swainson, Classification of Birds.*

Swain. Zool. Journ. *Swainson, Zoological Journal.*

Temm. Plan. Col. *Temminck, Planches Coloriées.*

Vieill. Analy. *Vieillot, Analyse.*

Vieill. Encycl. Méth. *Vieillot in the Encyclopédie Méthodique.*

Vieill. Nouv. Dict. Hist. Nat. *Vieillot in the Nouveau Dictionnaire d'Histoire Naturelle.*

Vieill. Ois. Dor. *Vieillot in the Oiseaux Dorés.*

Vig. & Horsf. Trans. Linn. Soc. *Vigors and Horsfield in the Transactions of the Linnean Society.*

Von Rosenb. Jour. für Ornith. *Von Rosenberg in the Journal für Ornithologie.*

Wagl. Syst. Av. *Wagler, Systema Avium.*

Wall. Ann. and Mag. Nat. Hist. *Wallace in the Annals and Magazine of Natural History.*

Wall. Ibis. *Wallace in The Ibis.*

Wall. Malay Archip. *Wallace, Malay Archipelago.*

Wall. Proc. Zool. Soc. *Wallace in the Proceedings of the Zoological Society.*

Wils. Illus. Zool. *Wilson, Illustrations of Zoology.*

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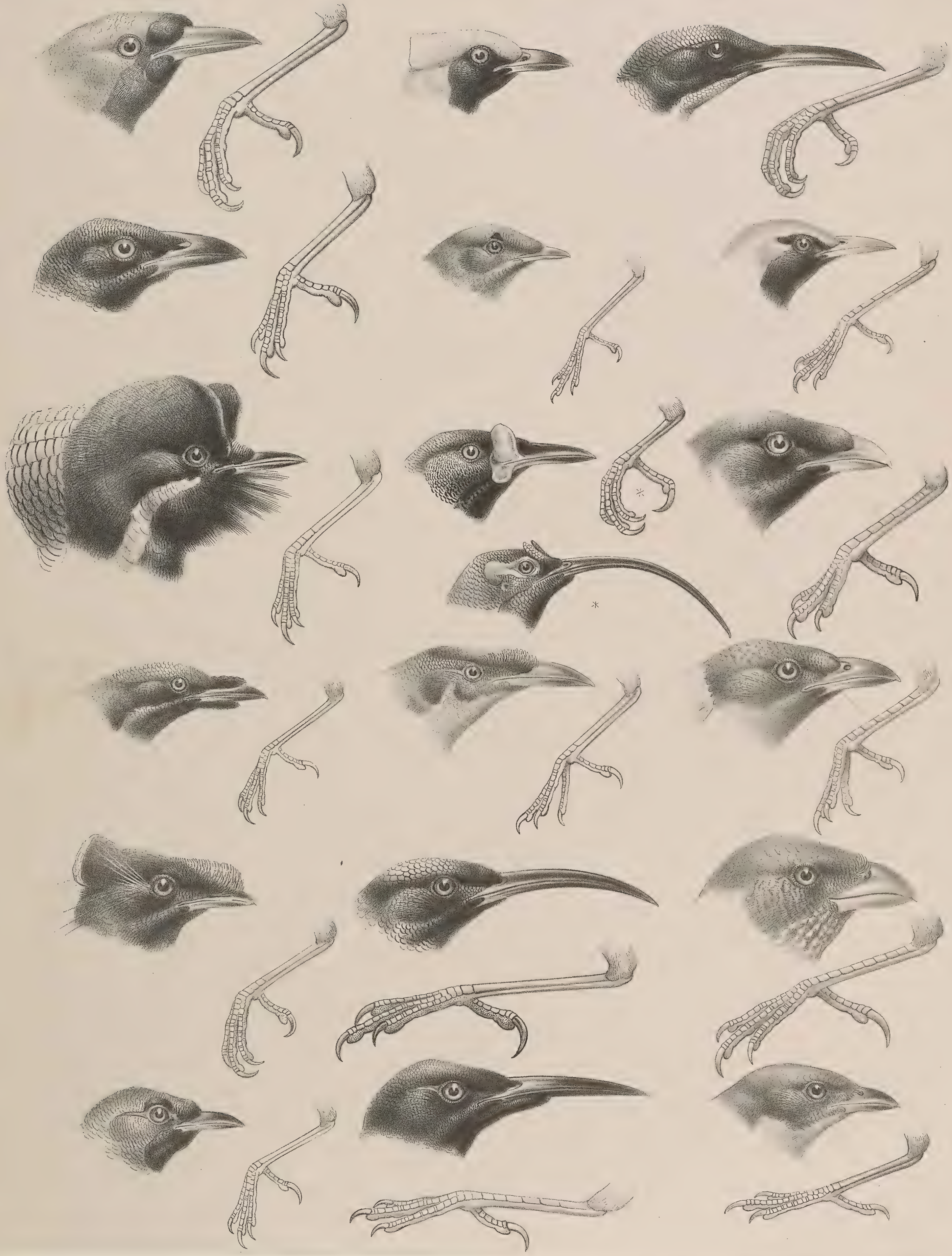


J. Wolf. & J. Smit. del. et lith.

M & N. Hanhart imp

PARADISEA APODA.
MANUCODIA CHALYBEA
ASTRAPIA NIGRA.
LOPHORINA ATRA.
PAROTIA SEXPENNIS.
DIPHYLLODES SPECIOSA.

XANTHOMELUS AUREUS
CICINNURUS REGIUS
PARADIGALLA CARUNCULATA
SEMIOPTERA WALLACEI
EPIMACHUS SPECIOSUS.
* DREPANORNIS ALBERTISI.
SELEUCIDES ALBA.

PTILORIS MAGNIFICUS
SERICULUS MELINUS.
PTILONORHYNCHUS VIOLACEUS
CHLAMYDODERA NUCHALIS
ÆLURÆDUS CRASSIROSTRIS
AMBLYORNIS INORNATUS

GENERIC CHARACTERS.

Family PARADISEIDÆ.

Subfamily 1. PARADISEINÆ.

Genus 1. Paradisea.

Feathers of the head short, thick, compressed tightly together. Bill rather long, stout; culmen curved to the tip, which is emarginate. Nostrils lateral, concealed by frontal feathers. Wings rounded, long; fourth to seventh primaries equal and longest. Tail broad, rounded. Tarsi rather stout, covered by an entire scale. Toes long; outer more lengthened than the inner and united at the base to the middle toe. Hind toe long and stout. Claws long, strong, curved, acute.

Genus 2. Manucodia.

Feathers of the head short, velvety. Bill stout, curved on the culmen; tip emarginate. Nostrils partially concealed by frontal feathers. Wings long, rounded; fourth to seventh primaries equal and longest. Tail long, rounded. Tarsi longer than middle toe. Toes moderate; inner one shortest and united at base to the middle one. Claws long, sharp, curved, acute.

Genus 3. Astrapia.

Bill moderate, curving slightly to the tip, which is emarginate. Nostrils basal, sunk, partly hidden by frontal feathers. Wings moderate, pointed. Tail very long, graduated, feathers broad and rounded. Tarsi long. Feet moderate; outer toe united to the middle one at base.

Genus 4. Parotia.

Bill short, curved; base hidden by frontal plumes that project over the maxilla for nearly half of its length. Wings much rounded; secondaries very long. Tail broad, rounded. Tarsi moderate. Toes slender; outer and middle ones united at base.

Genus 5. Lophorina.

Bill slender, curved; tip emarginate; frontal feathers projecting forward, hiding the nostrils. Wings and tail rounded; secondaries long. Occipital crest greatly exaggerated. Tarsi slender. Toes slender; middle one united at the base to the outer.

Genus 6. Diphyllodes.

Bill shorter than the head, compressed, curving slightly on the culmen; tip not emarginate. Nostrils entirely hidden by frontal feathers. Wings moderate; third and fourth primaries equal and longest. Tail short, square. Tarsi rather long, covered by an entire scale. Toes slender, short; outer and middle ones united at base. Claws slender, curved, acute.

Genus 7. Xanthomelus.

Bill, culmen curving rapidly towards the tip; cutting-edges of mandible curving slightly downwards; tip of maxilla and mandible toothed. Nostrils open and exposed. Wings moderate. Tail rounded.

Genus 8. Cicinnurus.

Bill short, slightly compressed on the sides. Nostrils hidden by frontal plumes. Wings short; second and third primaries equal and longest; secondaries nearly equal in length to the primaries. Tail short, of twelve feathers, square. Tarsi covered with a scale. Outer and middle toe united at base. Claws small, curved, acute.

Genus 9. Paradigalla.

Bill moderate, shorter than the head, slender; point emarginate; nostrils basal, covered by the feathers of the forehead; two fleshy wattles at the commissure of the bill. Wings rather long; third and fourth primaries longest. Tail rather pointed, formed of twelve feathers.

Genus 10. Semioptera.

Bill long, compressed; culmen much curved; tip emarginate; nostrils basal, oval, hidden by frontal plumes that extend one third the length of the maxilla. Wings rounded, fourth and fifth primaries equal and longest. Tail moderate, slightly rounded. Tarsi long, rather slender, covered by a single scale. Toes slender, rather short; outer and middle ones united at base. Claws long, much curved, acute.

Subfamily 2. EPIMACHINÆ.

Genus 1. Epimachus.

Bill long, arched, slender, curved to the tip, which is slightly emarginate. Nostrils basal, placed in a membranous groove, partly hidden by frontal feathers. Wings moderate; fourth to seventh primaries equal and longest. Tail lengthened. Tarsi long. Toes long, rather strong; outer and middle ones united at base.

Genus 2. Drepanornis.

Bill very long, slender, and much curved; the maxilla inside destitute of groove; mandible slightly grooved. Nostrils basal, oval, exposed. Wings moderate; fourth and fifth primaries equal and longest, third nearly equal to fifth. Tail moderately long, rounded, composed of twelve feathers. Tarsi short, covered by a single scale. Toes weak; outer and middle ones united at base. Claws curved, acute.

Genus 3. Seleucides.

Bill longer than the head, nearly straight, compressed; tip emarginate. Nostrils oblong, partly hidden by frontal feathers, and placed in a lateral groove. Wings moderate; third, fourth, and fifth primaries equal and longest. Tail short, composed of twelve nearly equal feathers. Tarsi moderate, scutellated. Outer and middle toes united at base. Claws curved, acute.

Genus 4. Ptiloris.

Bill longer than the head, slightly curved. Nostrils partly hidden by frontal feathers. Wings moderate, concave, rounded; secondaries and primaries nearly equal in length; the former square at tip. Tail slightly rounded, composed of twelve feathers. Tarsi moderate, covered by a single scale. Toes slender; middle and outer ones united at the base. Claws much curved, slender, acute.

Subfamily 3. TECTONARCHINÆ.

Genus 1. Sericulus.

Bill rather slender, nearly as long as the head; culmen keeled at base, curving slightly towards the tip. Nostrils basal, lateral, exposed. Wings moderate; second, third, and fourth primaries equal and longest. Tail rather long, even. Tarsi longer than middle toe, scutellated. Toes long; outer and middle united at the base

Genus 2. Ptilonorhynchus.

Bill rather stout; culmen curved to the tip, which is emarginate. Nostrils basal, lateral, nearly concealed by frontal feathers. Wings rather long, pointed; fourth and fifth primaries equal and longest. Tail short, square. Tarsi longer than middle toe, covered with numerous scales. Toes stout, long; outer and middle ones united at base. Claws curved and acute.

Genus 3. Chlamydodera.

Bill stout; culmen curving sharply to the tip, which is emarginate. Gonys advancing slightly upward. Nostrils basal, exposed; opening round, placed in a membrane. Wings long, pointed; third and fourth primaries equal and longest. Tail long, nearly square. Tarsi longer than middle toe, covered with broad scales. Toes long; inner and middle ones united at base. Claws curved and acute.

Genus 4. Ælurœdus.

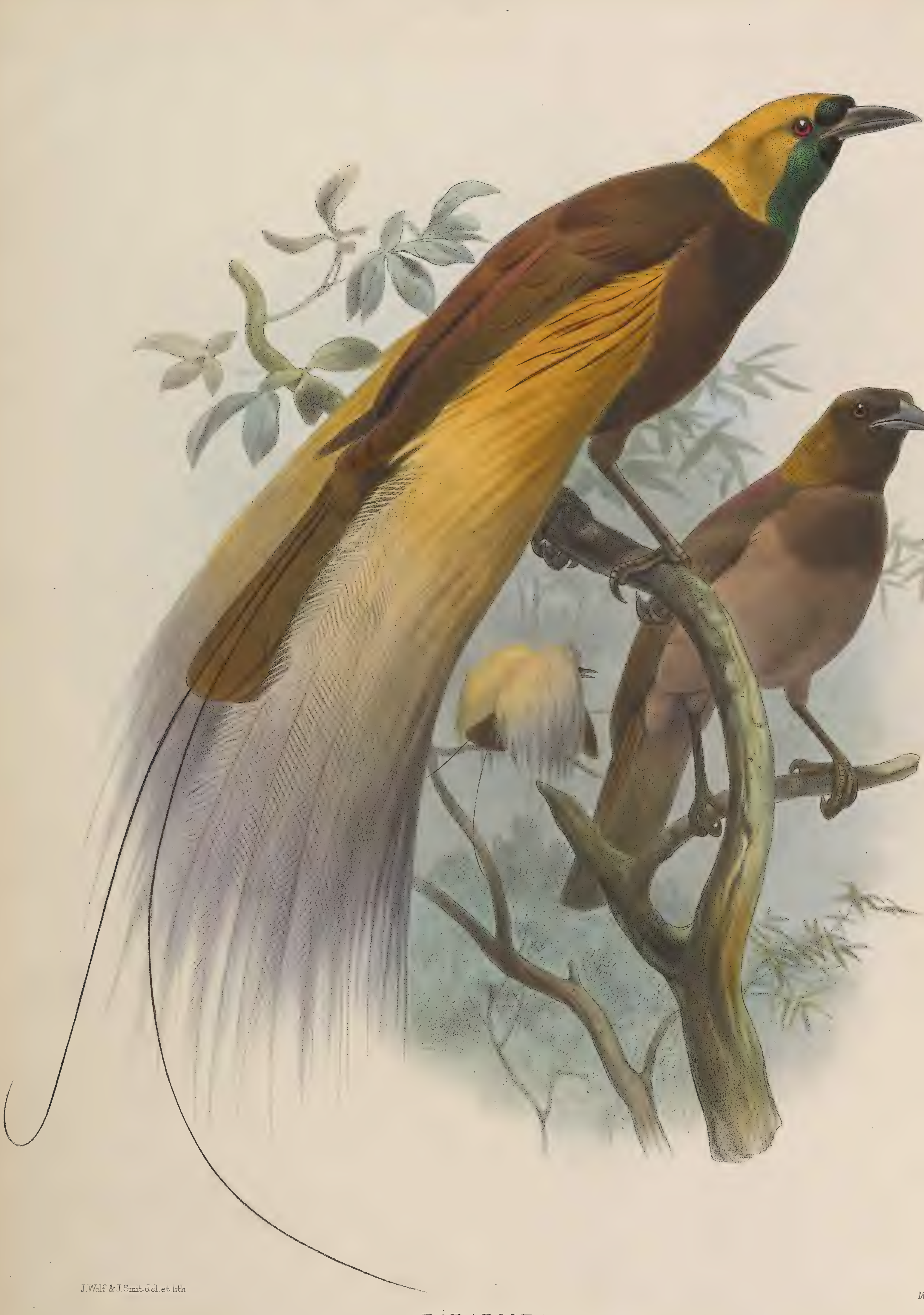
Bill stout; culmen much curved to the tip, which is emarginate. Gonys inclining sharply upwards. Nostrils basal, partly covered by frontal feathers; opening round, placed in a membrane. Wings long and pointed; fourth and fifth primaries equal and longest. Tail long, slightly rounded. Tarsi much longer than middle toe, covered with broad scales. Toes long, stout; inner and middle united at base. Claws long, sharp, curved.

Genus 5. Amblyornis.

Bill short, thick; culmen much curved. Gonys nearly straight. Nostrils partly hidden by frontal feathers, which are soft and flexible. A few short bristles project forward over the culmen and nostrils, the latter being round, open, and partly exposed. Wings moderate; fourth primary longest. Tail composed of ten feathers, very slightly rounded. Toes slender; middle one nearly as long as the tarsus; outer longer than the inner one.

SUBFAMILY PARADISEINÆ.

Bill stout, rather straight. Males possessing greatly developed plumes upon various portions of their bodies, forming conspicuous ornaments when elevated.



J. Wolf & J. Smit del. et lith.

M&N. Hanhart. imp.

PARADISEA APODA.

PARADISEA APODA.

GREAT BIRD OF PARADISE.

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L'OISEAU DE PARADIS, Briss. Ornith. (1760) vol. ii. p. 130, pl. xiii.

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PARADISEA MAJOR, Shaw, Gen. Zool. (1809) vol. vii. pt. ii. p. 480, pl. 58, and (1826) vol. xiv. p. 76.—Less. Ois. Parad. (1835), Syn. p. 6; Hist. Nat. p. 155. pl. 6.—Id. Ornith. p. 336 (1831).

LE GRAND OISEAU DE PARADIS ÉMERAUDE, Levaill. Hist. Nat. des Ois. Parad. vol. i. (1806) pls. 1, 2, 3.

L'ÉMERAUDE, Vieill. Ois. Dor. t. i. vol. ii. (1802) p. 9.

PARADISEA APODA. var. WALLACIANA, G. R. Gray, Proc. Zool. Soc. (1858) p. 181, sp. 73.

Hab. New Guinea, Aru (Wallace).

For many years the Birds of Paradise have been known to all persons whose avocations called them to the Moluccas; and the earlier voyagers among those islands entertained strange views regarding these attractive creatures. Their beautiful plumage excited the admiration of the most indifferent person; and the strange stories related of them aroused the fears of the more superstitious of even the reckless mariners. Wallace says that the Malay traders gave them the name of "Manuk dewata," or "God's birds;" and the Portuguese, finding them without feet or wings, and not being able to learn any thing authentic about them, called them "Passaros do Sol," or "birds of the sun;" while the learned Dutchmen who wrote in Latin, called them "Avis paradiseus," or "Paradise-bird." John Van Linschoten gives these names in 1598, and states that no one has seen these birds alive; for they live in the air, always turning towards the sun, and never alighting on the earth until they die; for he says that they have neither feet nor wings, as may be seen by the birds carried to India, and sometimes to Holland. "More than a hundred years later," says Wallace, "Mr. William Funnel, who accompanied Dampier, and wrote an account of the voyage, saw specimens at Amboyna, and was told that they came to Banda to eat nutmegs, which intoxicated them and made them fall down senseless, when they were killed by ants." As no perfect specimen of this beautiful bird had been seen in Europe at the time of Linnæus, that naturalist gave the present species, one of the longest-known, the name of *apoda* or *footless*, although it really is possessed of those members very respectable in size. The Great Bird of Paradise, as its name imports, is the largest known species, and is an inhabitant of the Aru Islands. Mr. Wallace, whose opportunities for observing it in its native wilds have been most favourable, gives the following account of it in his work on the Malay archipelago:—"The Great Bird of Paradise is very active and vigorous, and seems to be in constant motion all day long. It is very abundant, small flocks of females and young males being constantly met with; and though the full-plumaged birds are less plentiful, their loud cries, which are heard daily, show that they also are very numerous. Their note is 'Wawk-wawk-wawk wŏk-wŏk-wŏk,' and is so loud and shrill as to be heard a great distance, and to form the most prominent and characteristic animal sound in the Aru Islands. The mode of nidification is unknown; but the natives told me that the nest was formed of leaves placed on an Ant's nest, or on some projecting limb of a very lofty tree; and they believe that it contains only one young bird. The egg is quite unknown; the natives declare that they have never seen it; and a very high reward offered for one by a Dutch official did not meet with success. They moult about January or February; and in May, when they are in full plumage, the males assemble early in the morning to exhibit themselves in the singular manner already described on page 151. This habit enables the natives to obtain specimens with comparative ease. As soon as they find that the birds have fixed upon a tree on which to assemble, they build a little shelter of palm-leaves in a convenient place among the branches; and the hunter ensconces himself in it before daylight, armed with his bow and a number of arrows terminating in a round knob. A boy waits at the foot of the tree; and when the birds come at sunrise, and a sufficient number have assembled and have begun to dance, the hunter shoots with his blunt arrow so strongly as to stun the bird, which drops down, and is secured and killed by the boy without its plumage being injured by a drop of blood. The rest take no notice, and fall one after another till some of them take the alarm. The native mode of preserving them is to cut off the wings and feet, and then skin the body up to the beak, taking out the skull. A stout stick is then run up through the specimen, coming out at the mouth. Round this some leaves are stuffed; and the whole is wrapped up in a palm spathe, and dried in the smoky hut. By this plan the head, which is really large, is shrunk up almost to nothing, the body is much reduced and shortened, and the greatest prominence is given to the flowing plumage. Some of these native skins are very clean, and often have wings and feet left on; others are dreadfully stained with smoke; and all give a most erroneous idea of the proportions of the living bird. The *Paradisea apoda*, as far as we have any certain knowledge, is confined to the mainland of the Aru Islands, never being found in the smaller islands which surround the central mass. It is certainly not found in any of the parts of New Guinea visited by the Malay and Bugis traders, nor in any of the other islands where Birds of Paradise are obtained. But this is by no means conclusive evidence; for it is only in certain localities that the natives prepare skins, and in other places the same birds may be abundant without ever becoming known. It is therefore quite possible that this species may inhabit the great southern mass of New Guinea, from which Aru has been separated; while its near ally, *P. papuana*, is confined to the north-western peninsula."

The habits referred to above by Mr. Wallace are thus described by him on page 151 of the same work: he was residing on the Aru Islands, where he had gone to procure these birds. "I had, however, some consolation in the birds my boys brought home daily, more especially in the Paradiseas, which they at length obtained in full plumage. It was quite a relief to my mind to get these; for I could hardly have torn myself away from Aru had I not obtained specimens. But what I valued almost as much as the birds themselves was the knowledge of their habits, which I was daily obtaining, both from the accounts of my hunters and from the conversation of the natives. The birds had now commenced what the people here call 'sacaleli,' or dancing-parties, in certain trees in the forest, which are not fruit-trees, as I at first imagined, but which have an immense head of spreading branches and large but scattered leaves, giving a clear space for the birds to play and exhibit their plumes. On one of these trees a dozen or twenty full-plumaged male birds assemble together, raise up their wings, stretch out their necks, and elevate their exquisite plumes, keeping them in a continual vibration. Between whiles they fly across from branch to branch in great excitement, so that the whole tree is filled with waving plumes in every variety of attitude and motion. The bird itself is nearly as large as a crow, and is of a rich coffee-brown colour. The head and neck is of a pure straw-yellow above, and rich metallic green beneath. The long plumy tufts of golden-orange feathers spring from the sides beneath each wing, and when the bird is in repose are partially concealed by them. At the time of its excitement, however, the wings are raised vertically over the back, the head is bent down and stretched out, and the long plumes are raised up and expanded till they form magnificent golden fans, striped with deep red at the base, and fading off into the pale brown tint of the finely divided and softly waving points. The whole bird is then overshadowed by them, the crouching body, yellow head, and emerald-green throat forming but the foundation and the setting to the golden glory which waves above. When seen in this attitude, the Bird of Paradise really deserves its name, and must be ranked as one of the most beautiful and most wonderful of living things."

In the 'Annals and Magazine of Natural History' for 1857, the same author states, in a paper published on this species, that "on examining a freshly killed bird we see the great muscular strength of the legs and wings, and find the skin to be remarkably thick and tough, and the skull as well as the bones very hard and strong. The whole neck is lined with a thick, muscular fat, exactly similar to that of the *Cephalopterus ornatus*, in the same position, and probably serving in both cases to nourish the highly developed plumage of the adjacent parts. This causes the throat externally to appear very wide, and as if swollen, which displays to great advantage the dense, scaly, metallic plumage. The flesh, as might be expected, is dry, tasteless, and very tough—to be eaten only in necessity. By far the greater number of the birds I have opened have had their stomachs full of fruit; and this seems to be their usual and favourite food. At times, however, they seek after insects, principally Orthoptera; and I have found one of the largest of the Phasmidæ almost entire in the stomach of a full-plumaged bird. It is only for two or three months of the year, during the height of the east monsoon, that the natives obtain them; and this circumstance has no doubt led to the statement that they are migratory in Aru, arriving from New Guinea at the end of the west, and returning there again at the end of the east monsoon—which is quite incorrect, as they are permanent residents in Aru, and the natives know nothing about their being found in New Guinea. About April, when the change from the west to the east monsoon occurs, the Paradiseas begin to show the ornamental side-feathers; and in May and June they have mostly arrived at their full perfection. This is probably the season of pairing. They are in a state of excitement and incessant activity; and the males assemble together to exercise, and to dress and display their magnificent plumage." "The long side plumes," our author states, 'all spring from an oval fold of the skin, about an inch in length, situated just below the elbow or first joint of the wing. On this point they turn as on a hinge, and admit only of being laid down closed beneath the wing, or erected and expanded—which position they take of their own accord, if the bird is held up by the legs, with the head inclining a little downwards, and the whole gently shaken. In this manner by slightly altering the position of the body, all the forms which the plumage assumes during life can be correctly and beautifully imitated. The curious habit of the males assembling to play and exercise their limbs and feathers, occurs in some other birds, as the Turkeys and Argus Pheasants, and particularly in the *Rupicola cayana*, which, though a true arboreal bird, has its ball-room on the ground, generally on a flat rock, on which a space a few feet in diameter is worn clean and smooth by the feet of the dancers. On these spots the natives set snares and catch these beautiful birds alive. Of the geographical distribution of the Bird of Paradise many erroneous statements have been published. Its supposed migrations have by some been extended to Banda, by others to Ceram and all the eastern islands of the Molucca group. These statements, however, are totally without foundation, the species being strictly confined to New Guinea and the Aru Islands, and even to a limited portion of each of those countries. Aru consists of a very large central island, and some hundreds of smaller ones scattered around it at various distances, many being of large size and covered with dense and lofty forests; yet on not one of these is the *Paradisea* ever found (although many of them are much nearer New Guinea), being limited to the large island, and even to the central portions of that island, never appearing on the sea-coast, nor in the swampy forests, which in many cases reach some miles inland. With regard to its distribution in New Guinea, the Macassar traders assured me it was not found there at all; for although they obtain quantities of 'Burong mati' from most of the places they visit on the west coast of New Guinea, they are all of another kind, being the *Paradisea papuana*, a smaller and more delicate but less brilliantly coloured species. On inquiry I found they did not trade to the eastward of Cape Buro (135° E.). Lesson, I believe, found the larger species in the southern peninsula of New Guinea; and an intelligent Céramese trader I met at Aru assured me that in places he had visited more eastward than the range of the Macassar traders, the same kind was found as at Aru. It is therefore clear that the *Paradisea apoda* is confined to the southern peninsula of New Guinea and the Aru Islands, while the *Paradisea papuana* inhabits only the northern peninsula, with one or two of the islands (most probably) near its northern extremity. It is interesting to observe that though the Ké Islands and Goram approach nearer to New Guinea than Aru, no species of the Paradise-birds are found upon them—pretty clearly showing that these birds have not *migrated* to the islands beyond New Guinea, in which they are now fonud. In examining my series of specimens I find four such well-marked states of the male bird as to lead me to suppose that three moults are required before it arrives at perfection. In the first condition it is of a nearly uniform coffee-brown colour, darker on the head and paler on the belly, but entirely without markings or variety of colour. The two middle tail-feathers are exactly equal in length to the others, from which they only differ in having a narrower web. In the next series of specimens the head has acquired the pale yellow colour, and the throat and forehead the rich metallic green of the old birds; the two middle tail-feathers, however, are still webbed, but are now two or three inches longer than the rest. In the next state these two feathers have been replaced by the immensely long bare rachides, quite equal to the greatest size they attain; but there is as yet no sign of the fine side-plumes which mark the fourth and perfect state of the species. I am inclined to believe, therefore, that this extraordinary mass of plumes is only obtained by the *Paradisea* in its fourth year, and after three complete changes of its feathers. This will account for the very large number of immature birds everywhere seen, while the full-plumaged males are comparatively scarce. It is singular that I have not been able to obtain a single adult female, my only specimen of that sex being, I think, also a young bird. It is exactly similar to the youngest males, of a coffee-brown all over; but in Bonaparte's 'Conspectus' it is stated that the female is dusky yellow and brown, with the underparts *entirely white*. This, I cannot help thinking, must be a mistake, or altogether another bird; for neither myself nor my hunters have ever seen one at all resembling it, out of many hundreds in various stages of plumage. The natives who shoot the birds are also quite unaquainted with it, and always declared that the birds of a uniform brown colour were the females. It is also worthy of note that the long cirri of the tail in the full-plumaged males vary very much in length; and the shortest is often the most worn, showing that it has reached its full development for the year. A specimen occurs occasionally with immense cirri; one of mine has these feathers 34 inches long, while the general length seems to be from 24 to 28 inches. I think it probable, therefore, that these cirri increase in length each year, and that the very long ones mark very old birds. The other dimensions of the bird and the length of the ornamental plumes are in all cases almost exactly equal."

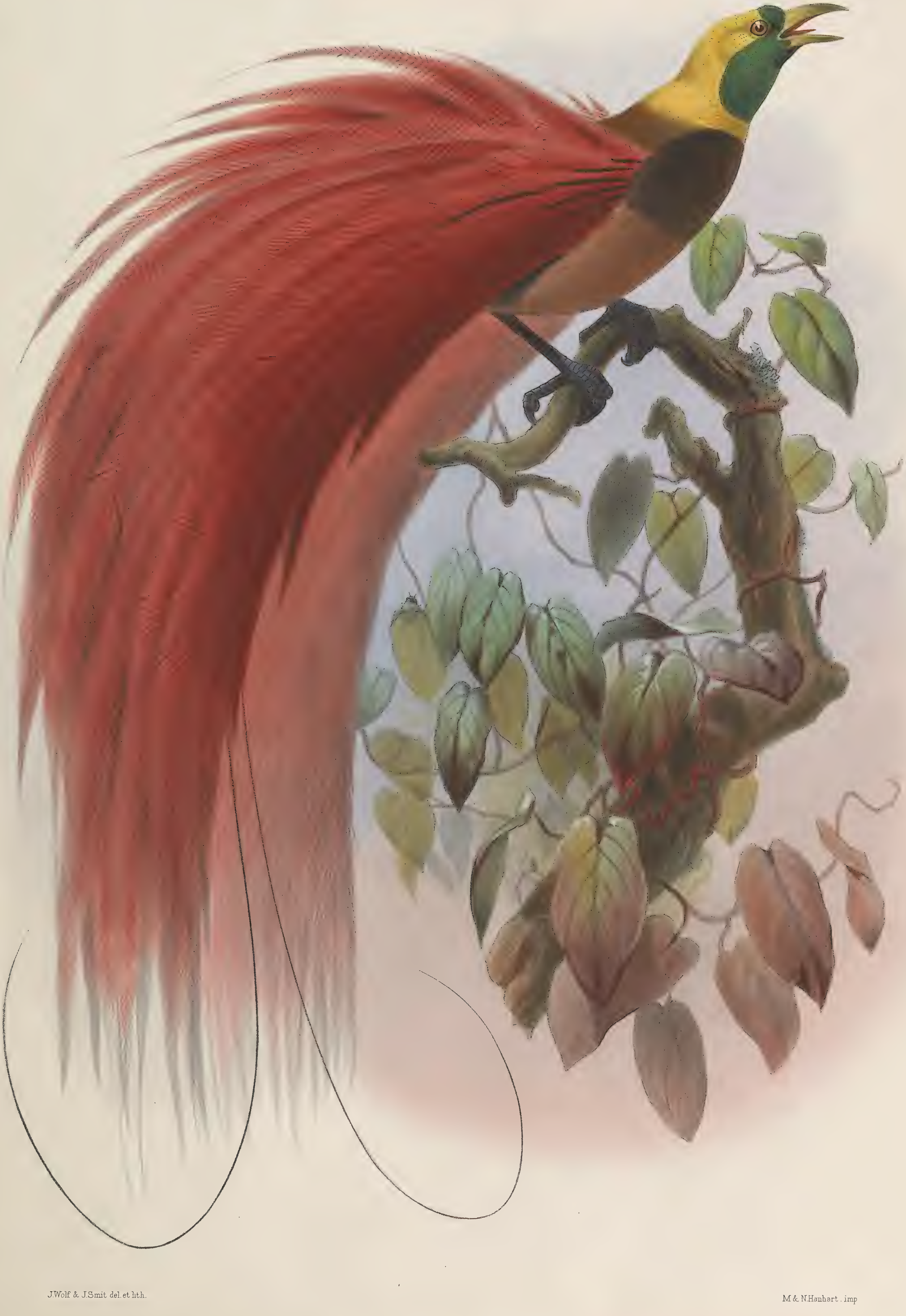
Bonaparte was undoubtedly mistaken in his description of the female of this species, and probably had a female of *P. minor* before him, which possesses such a plumage as he describes; for the female of *P. apoda* is brown all over, but smaller than the adult and young males.

In the splendid work upon the voyage of the 'Coquille,' Lesson gives the following account of the Great Bird of Paradise:—"From the first day of our arrival in New Guinea, that 'promised land' of naturalists, we saw the Emerald Birds of Paradise flying about in these old forests, daughters of ages, whose sombre depths perhaps afford the most striking and imposing spectacle which can be presented to the gaze of a European. The feathers of the bird's flanks formed a graceful and airy mass of plumes, which, without exaggeration, did not bear a poor resemblance to a brilliant meteor shooting through the air like a star. One could hardly have a correct idea of Birds of Paradise from the skins that the Papous sell to the Malays, and which are brought to us in Europe. These natives hunt them, in order to decorate the turbans of their rajahs with their feathers. They call them *Mambéfore* in their language, and kill them during the night-time, climbing the trees where they sleep, and shooting them with arrows made expressly very short, and which they manufacture from the stems of the leaves of the palm tree. The Camponys or villages of Mappia and Emberbakène are celebrated for the quantity of birds which are prepared there; and all the skill of the inhabitants is limited to tearing away their feet, skinning them, thrusting a small stick through the body, and drying them in the smoke. Some, more skilful, patronized by the Chinese merchants, dry them with the feet. The price of a Bird of Paradise among the Papous on the coast is at least a dollar; and these people prefer silver to any other object, even to wrought iron. During our sojourn in New Guinea they killed twenty of these birds. The Emerald, in life, is of the form of the French Jay. Its beak and feet are bluish. The iris is a brilliant yellow. Its movements are quick and nimble; it is only accustomed to alight on the top of the tallest trees. When it descends it is either to eat certain small fruits, or when the sun is so powerful as to force it to seek the shade. It is fond of various vegetables, and makes the neighbourhood resound with its loud voice. Its cry is fatal to it, because it serves to make known its hiding-place. It was by perseverance in watching that we succeeded in killing it; for when a male Bird of Paradise is on its perch, and hears a rustling in the forest, it becomes silent and motionless.

"Its cry is *voike, voike, voike, voike*, strongly uttered. The female has the same cry, but she utters it in a very feeble manner. Destitute of the brilliant plumage of her mate, she has only sombre attire. We found them in companies of twenty on a tree, whilst the males, always solitary, appeared only accidentally. The young bear the closest resemblance to the females. It is only at the second moult that the plumes appear, and the green throat betrays the true sex. The Bird of Paradise seeks its food only at sunrise and sunset. In the middle of the day it conceals itself under the spreading foliage of the teak tree, and does not leave it. It appears to dread the effect of the burning rays of the sun, and not to be willing to expose itself to their influence. In order to shoot the Birds of Paradise, travellers to New Guinea should remember that it is necessary to leave the boat before morning, and to reach about four o'clock the foot of the teak or fig-tree which it is known these birds frequent on account of the fruit (our stay in this place was from 26th July to 9th August), and to remain motionless until the males, pressed by hunger, come to the branches that are thought to be at a proper distance. It is indispensable to have a gun of very long range, and loaded with heavy shot; for it is very difficult to kill an Emerald Bird of Paradise *at once*, and if it is only wounded, it is very likely to be lost in the dense thickets, where one cannot even find the way without a guide."

Male.—Fore part of head, throat, and sides of neck brilliant grass-green, the chin so dark a green as to appear black. Occiput and back of neck deep yellow. Back, wings, and tail chocolate-brown; primaries same colour. Upper part of breast very dark purple-brown; rest of underparts chocolate-brown like the back. From beneath the wings on each side spring a mass of lengthened plumes extending beyond the tail; and the bird is able to erect these and display them over the back. For two thirds their length they are very rich golden-yellow, graduating into purple. The webs of the terminal third part of the feathers are split and widely separated. The webs graduate towards the tips, and terminate in long points: in some instances the shafts extend for a considerable way beyond the webs. Near the commencement of these side-plumes a few rigid feathers terminate in deep red, forming a line of that colour, very conspicuous upon the golden-yellow. From the base of the tail spring two webless shafts, which fall over the side-plumes, and attain lengths varying from eighteen to thirty-four inches. The bill is lead-colour at base, greenish-white at tip. Feet and tarsi flesh-colour.

Female.—Rich coffee-brown colour over the entire body, being lightest upon the underparts, and darkest on the top of head and throat. Wings and tail the same as the body, but some shades lighter in colour.



J.Wolf & J.Smit del.et lith.

M & N.Hanhart. imp

PARADISEA RAGGIANA.

PARADISEA RAGGIANA.

MARQUIS DE RAGGI'S BIRD OF PARADISE.

PARADISEA RAGGIANA, Sclater, Proc. Zool. Soc. (1873) p. 559.

HAB. Arangesia Bay, New Guinea (D'ALBERTIS).

BY the efforts of enterprising explorers the varied fauna of the great island of New Guinea is becoming by little and little better known to us, and the wonderful species composing its avi-kingdom are gradually being brought to the notice of naturalists.

In no one particular family does it appear more conspicuously rich than in that containing the Birds of Paradise, which doubtless had its origin in the high mountain-ranges and deep secluded valleys of the interior, into the great majority of which no European has yet been able to penetrate.

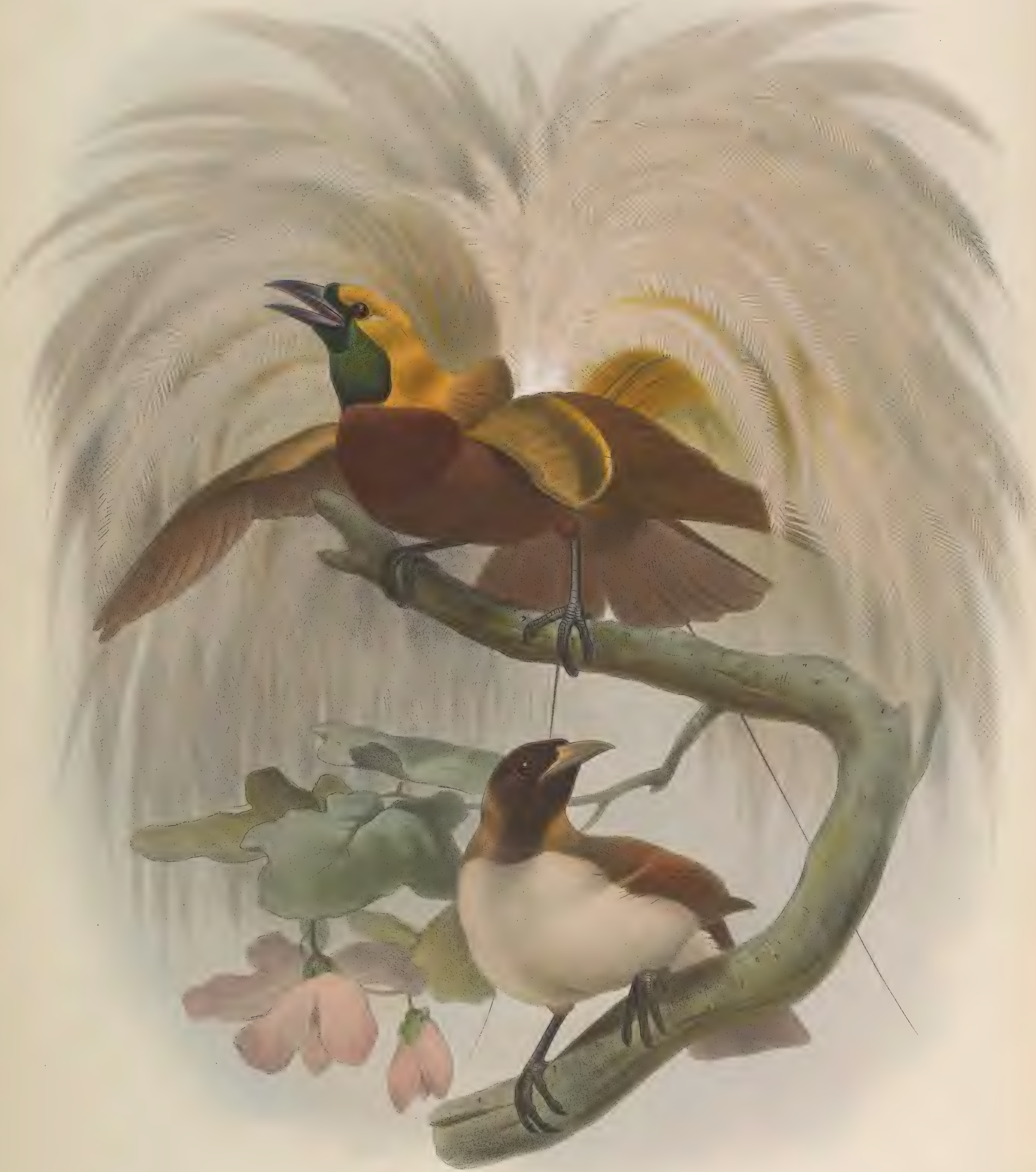
By what strange and beautiful forms of the animal world these virgin retreats may be inhabited we can do no more than conjecture; for our knowledge is as yet of the slightest, and drawn only from such gleanings as have been made from the outer boundaries—these materials, however, having been obtained only after much perseverance, privation, and danger on the part of those who have attempted to unveil the secrets of this unknown land, and bring forth its treasures for the benefit of science.

Among the latest novelties with which we have been made acquainted, are the two extraordinary Birds of Paradise the *Drepanornis Albertisi* and the present species, obtained by Signor d'Albertis during his recent journey in New Guinea; and these show us how inexhaustive is creative power in producing forms so varied and diversified from any others known. The Bird of Paradise whose portrait is presented in the accompanying Plate, has its nearest affinity in the *Paradisea apoda*, possessing similar colours in the feathers of its body (though differently arranged) and with a like structure of its side-plumes. These last, however, instead of being yellow, terminating with a purple gloss like those of the well-known Great Bird of Paradise, are deep red, calling to mind the plumes of *P. sanguinea*, to which, however, they otherwise in no way assimilate. Only two imperfect skins of this beautiful species were procured, both of males; but they were sufficient to afford a very correct idea of the appearance of the bird in life. Signor d'Albertis does not say if he killed the specimens himself; I should judge not, but rather that they were obtained from the natives, as all the skins prepared by him are in very good condition. The only remarks he makes regarding this species are embodied in the following sentences:—"The mutilated skins of this bird resemble the Red Paradise-bird, but differ in some particulars. I procured them at Orangeisa Bay, where *P. papuana* and *P. apoda* are unknown to the natives, judging by their surprise when I exhibited some skins of those species." It is not stated whether the species is rare; it is probable that it is not, but goes in flocks, and resembles in its habits the *P. apoda* of the Aru Islands.

Dr. Sclater, to whom this beautiful species was sent, has, at the request of Signor d'Albertis, named it after the Marquis de Raggi, of Italy. I am indebted to my friend Dr. Sclater for the opportunity of transcribing the remarks on these Birds of Paradise which were forwarded by their discoverer with the specimens.

This species may be described as follows:—

Head and throat deep green, a spot on the chin at the base of mandible almost black in certain lights. Upper part of breast very dark chestnut, forming a conspicuous band; rest of underparts light chestnut-brown. Back of head and neck, with a narrow line passing round the throat, dividing the green from the dark chestnut of the breast, light yellow. Back dark brown; tail rufous brown. A mass of long plumes, with their webs loose and separated, spring from the side near the shoulder of the wing, beautiful red, growing lighter towards their tips. Near the base of the central tail-feathers start two webless shafts, which in the specimen described had attained a length of about two feet, falling over the tail-feathers and curving outwards. Bill yellowish at the tip, inclined to a lead-colour near the base.



J Smit. lith.

M&N Hanhart imp.

PARADISEA MINOR

PARADISEA MINOR.

LESSER BIRD OF PARADISE.

LESSER BIRD OF PARADISE, Lath. Gen. Syn. (1782) p. 474, vol. ii.—Id. Gen. Hist. Birds (1822), vol. iii. p. 184.

LE PETIT ÉMERAUDE, Vieill. Ois. Dor. (1802) vol. ii. p. 12, pl. 2.

PARADISEA MINOR PAPUANA, var. β., Lath. Ind. Ornith. (1790) vol. ii. p. 194.—Less. Traité d'Ornith. (1831) p. 336.

PARADISEA MINOR PAPUANA, Forst. Zool. Ind. vol. i. (1781) p. 34.

PARADISEA MINOR, Shaw, Gen. Zool. (1809) vol. vii. p. 486, (1826) vol. xiv. p. 76.—Wagl. Syst. Av. (1827) sp. 2.—J. E. Gray, Illust. Ind. Zool. (1832) vol. i. pl.—Less. Ois. Parad. (1835) Syn. p. 3. sp. 1.—Hist. Nat. p. 132, pls. 1, 2, 3, 4, & 5.—Id. Man. d'Ornith. t. i. p. 392.—G. R. Gray, Hand-list of Birds (1870), pt. ii. p. 16. no. 6248.

LE PETIT OISEAU DE PARADIS ÉMERAUDE, Levaill. Hist. Nat. des Ois. Parad. (1806) vol. i. pls. 4 & 5.

L'OISEAU DE PARADIS PETIT-ÉMERAUDE, Less. Voy. Coquille, (text) vol. i. (1826) p. 654.—Vieill. Ois. Dor. t. ii. pl. 11.

PARADISEA PAPUANA, Bechst. Kurze Uebersicht (1811), p. 131. sp. 2.—G. R. Gray, Gen. of Birds. vol. ii. p. 323. sp. 2.—Bon. Consp. Gen. Av. (1850) p. 413. sp. 2.—Sclat. Proc. Zool. Soc. (1862) p. 123.—G. R. Gray, Proc. Zool. Soc. (1859) p. 157. sp. 48.—Wall. Proc. Zool. Soc. (1862) p. 160.—Id. Ibis, (1859) p. 111, (1861) p. 287.—Schleg. Mus. Pays Bas, (1867) p. 82.—Wall. Malay Archip. vol. ii. p. 240.—Schleg. Journ. für Orn. (1861) p. 385.—Von Rosenb. Journ. für Orn. (1864) p. 129.—Schleg. Tijdsch. Dierk. parts 4 & 5, pp. 17 & 49.

PARADISEA BARTLETTII, Goodwin, Proc. Zool. Soc. (1860) p. 243.

HAB. New Guinea, Waigiou, Mysol, Salwatty, Jobie, Mysory, Biak, Sook (WALLACE; BERNSTEIN).

THE Lesser Bird of Paradise is, as its name implies, smaller than the *P. apoda*, to which, however, it bears some resemblance; and by those who are not familiar with the two species, the present one is not unfrequently confounded with its larger relative. But, besides having a much larger extent of yellow upon the back, the plumes of the two birds are very different both in structure and colour. The *P. minor* has been known for a long time to naturalists, having been mentioned by Latham, in his 'General Synopsis of Birds,' as far back as the year 1782. Among ornithologists it has generally been known as *Paradisea papuana*; but this name will have to give place to that of *P. minor*, conferred upon it by Shaw in 1809. In the 'Zoology of the Voyage of the Coquille,' Lesson, who procured specimens of this bird while the ship was visiting the Moluccas, gives an account of it, a translation of which I here insert:—

"The small Emerald Bird of Paradise feeds, without doubt, upon various things in its state of freedom. We can affirm that it lives on the seeds of the teak and on a fruit named *amihou*, of a pinkish white colour, delicate flavour, and glutinous, of the size of the small European fig, and which grows on a tree of the genus *Ficus*. Many birds are very fond of these fruits; for they are also sought for by the Calaos, the Manucodes, and the Phonygames, Calybe and Keraudren. We have seen two Birds of Paradise kept by the Chinese at Amboina: they were always in motion; they were fed with boiled rice, but liked above every thing the moths or kakerlacs. A trader asked five hundred francs a-piece for them. We regretted that we were not able to take them to France, where doubtless they would have lived; for their habits being analogous to our Magpie promised us many chances of success. This beautiful bird lives in bands in the vast forests of the Papuan archipelago, situated south of the Equator, and which is composed of the islands of Arou and Waigiou and of the large one called New Guinea. They are birds of passage, changing their abode according to the monsoon. The females assemble in large troops on the summits of the largest trees in the forest, crying altogether to call the males, who appear in small numbers amongst them and seem to form a harem after the manner of the Gallinaceous birds."

The same author, in his work on the Birds of Paradise, writes as follows concerning this species:—"The small Emerald Bird of Paradise has the quick and agile movements and the manners of the *Coraces*. In the forests that it inhabits it seeks the summits of the tallest trees; and when it descends to the lower branches, it is to search for food, or to protect itself from the rays of the sun when that orb is at its meridian. It flies thus from the influence of heat, and likes the shade of the thick and bushy foliage of the teak trees. It rarely leaves these trees in the middle of the day; and it is only in the morning and evening that it is seen seeking its food. Ordinarily, when it believes itself to be alone, it utters a piercing cry, rendering with exactitude the syllables *voike, voike, voike,* strongly articulated. These cries, at the time of our sojourn in New Guinea in July, appeared to us to be a call; for the females, grouped in small numbers on the surrounding trees, then obeyed the voice of love. Never among these troops did we see more than one male strutting proudly in the midst of these plainly apparelled individuals, whilst he, plumed dandy, resembled a cock who shouts victory after having beaten a rival and gained the sovreignty of a poultry-yard. Is the little Emerald Bird of Paradise, then, a polygamist? or is this disproportionate number of females owing to the continual chase after the males, which causes this scarcity, whilst the females are neglected and allowed to live in peace without fear of man, having only to protect themselves from their natural enemies the beasts of the woods? Attracted by this *voike, voike,* we found it easy in our hunts to follow the Birds of Paradise, and to kill a pretty large number. The first one we saw astonished us so much that the gun remained quiet in our hand, so profound was our wonderment. We walked with care in the tracks made by the wild boars, in the deep shades of the bushes surrounding the harbour of Dorey, when a little Emerald Paradise Bird, flying above our heads with graceful and easy flight, seemed to us like a meteor, of which the tail of fire left behind a mass which filled the air with a long train of light. When an unaccustomed sound strikes the ear of the little Emerald Bird of Paradise, it becomes perfectly quiet; it remains hidden in the deep foliage that conceals it from the view of the hunter; but if the sound continues, it soon flies away. It perches upon the highest branches of the loftiest trees of New Guinea; and it is very difficult to shoot without using long-range guns; for it does not fall unless shot dead, and the distance from which it is necessary to shoot is not less than one hundred and fifty paces. It is unnecessary to say heavy shot are required. When it is only wounded, it expires in the thickets; however, we happened one day to find, dying upon the banks of a pond in the bed of a half-dried torrent, one of these birds which had been wounded the day before. It is, then, in the evening or, better, the morning that the hunter must be on the watch, after having carefully reconnoitred the trees filled with fruit, to which the Paradise-birds resort. There, perfectly still, he awaits patiently the advent of the Emeralds, soon foretold by their harsh and strong cry. At the time of our stay in the land of promise for naturalists (from the 26th of July to the 9th of August), these fairy creatures searched for the fleshy buds of the teak trees, but above all for the pinky white, very mucilaginous fruits of the fig-tree. We always found insects in their crops; and during our sojourn at Amboina two Emerald Birds of Paradise, which we saw alive at the house of a rich Chinese merchant, were fed with large moths and boiled rice."

Mr. Wallace procured many specimens of this beautiful bird during his travels among the islands of the Indian archipelago; for, unlike its larger relative, the present species inhabits several different islands, as well as being a native also of the mainland of New Guinea. I may remark here that Mr. Wallace was the first to send many of the different species of the Birds of Paradise in a perfect state to Europe; for, previously to his visit, nothing but the mutilated skins prepared by the natives had been received by collectors, giving a very imperfect idea of the surpassing beauty of the birds. "The *Paradisea papuana,*" says this gentleman, "has a comparatively wide range, being the common species on the mainland of New Guinea, as well as on the islands of Mysol, Salwatty, Jobie, Biak and Sook. On the south coast of New Guinea, the Dutch naturalist Muller found it at the Oetanata river, in longitude 136° E. I obtained it myself at Dorey; and the captain of the Dutch steamer *Etna* informed me that he had seen the feathers among the natives of Humboldt Bay, 141° E. longitude. It is very probable, therefore, that it ranges over the whole of the mainland of New Guinea. The true Paradise-birds are omnivorous, feeding on fruits and insects,—of the former preferring small figs; of the latter, grasshoppers, locusts and phasmas, as well as cockroaches and caterpillars. When I returned home in 1862, I was so fortunate as to find two adult males of this species in Singapore; and as they seemed healthy, and fed voraciously on rice, bananas, and cockroaches, I determined on giving the very high price asked for them (£100), and to bring them to England by the overland route under my own care. On my way home I stayed a week at Bombay to break the journey, and to lay in a fresh stock of bananas for my birds. I had great difficulty, however, in supplying them with insect food; for in the Peninsular and Oriental steamers cockroaches were scarce, and it was only by setting traps in the store-rooms and by hunting an hour every night in the forecastle, that I could secure a few dozen of these creatures, scarcely enough for a single meal. At Malta, where I stayed a fortnight, I got plenty of cockroaches from a bakehouse, and, when I left, took with me several biscuit-tins full as provision for the voyage home. We came through the Mediterranean in March, with a very cold wind; and the only place on board the mail-steamer where their large cage could be accommodated was exposed to a strong current of air down a hatchway, which stood open day and night; yet the birds never seemed to feel the cold. During the night journey from Marseilles to Paris it was a sharp frost; yet they arrived in London in perfect health, and lived in the Zoological Gardens for one and two years, often displaying their beautiful plumes to the admiration of the spectators. It is evident, therefore, that the Paradise-birds are very hardy, and require air and exercise rather than heat; and I feel sure that if a good-sized conservatory could be devoted to them, or if they could be turned loose in the tropical department of the Crystal Palace, or the Great Palm-house at Kew, they would live in this country for many years." The following short note by Mr. Sclater was published in the Proceedings of the Society on the arrival of the birds brought by Mr. Wallace:—

"The two Paradise-birds had been lodged in the upper part of the Zoological Society's old Museum, a room having been fitted up for their reception, with a large cage of galvanized wire, 20 feet long by 11 in width. As they were both males, it had been found necessary to keep them apart, the sight of one another, or even of a Paradise-bird's plume waved near them in the air, producing in them great excitement. The cage had been, therefore, divided by a screen which excluded the light, and the two birds placed in the separate compartments. The remarkable side plumes which ornament the males of the true *Paradiseæ* when in full dress were as yet but partially developed in these specimens, but in a few weeks, if the birds continue to thrive, would probably attain their full dimensions."

Mr. A. D. Bartlett, the Superintendent of the Zoological Gardens in Regent's Park, has kindly furnished me with the following account regarding the two individuals of this species which lived for some time in the Society's aviary. "When the two Birds of Paradise first arrived at the Gardens in April 1862, their plumes were quite short, only about five inches long. The birds had moulted, and the new feathers were growing in a thick bunch on each side below their wings. They appeared in good health and were active and lively. I soon ascertained how fond they were of meal-worms and other insects; and they fed freely upon fruit, boiled rice, &c.; a little cooked flesh was also acceptable to them. Their mode of hopping about from perch to perch and clinging to the bars or wires of the cage reminded one of a Jay or Jackdaw. They were fond of a bath, and were very careful in dressing and drying their fine plumes: these were about two months in growing to full perfection; and it was a charming sight to see them when in full plumage. When uttering their loud call, the body was bent forwards, the wings spread open and raised up, frequently over their heads, meeting the plumes, which were spread in the most graceful manner, every feather vibrating in a way that almost dazzled the sight. During this display the bird would become greatly excited, and sometimes turn almost under the perch or branch, the head and neck being bent so low down. At this period we found they would not agree, but attacked each other; and we were therefore obliged to keep them separated by a wire division. They hopped about like Jays or Jackdaws, never ran like Starlings or Magpies, and when on the ground raised the points of the plumes so that they should not touch the earth. They soon became very tame and would take food from the hand; and the sight of a meal-worm would bring them down from the perch immediately. The moult was extremely rapid, the fine plumes being thrown off in a few days; and these appeared to grow all at the same time in a bunch. It is therefore certain that these birds, after they attain the adult plumage, lose it only during the annual moult, like the Peacock and many other richly ornamented birds."

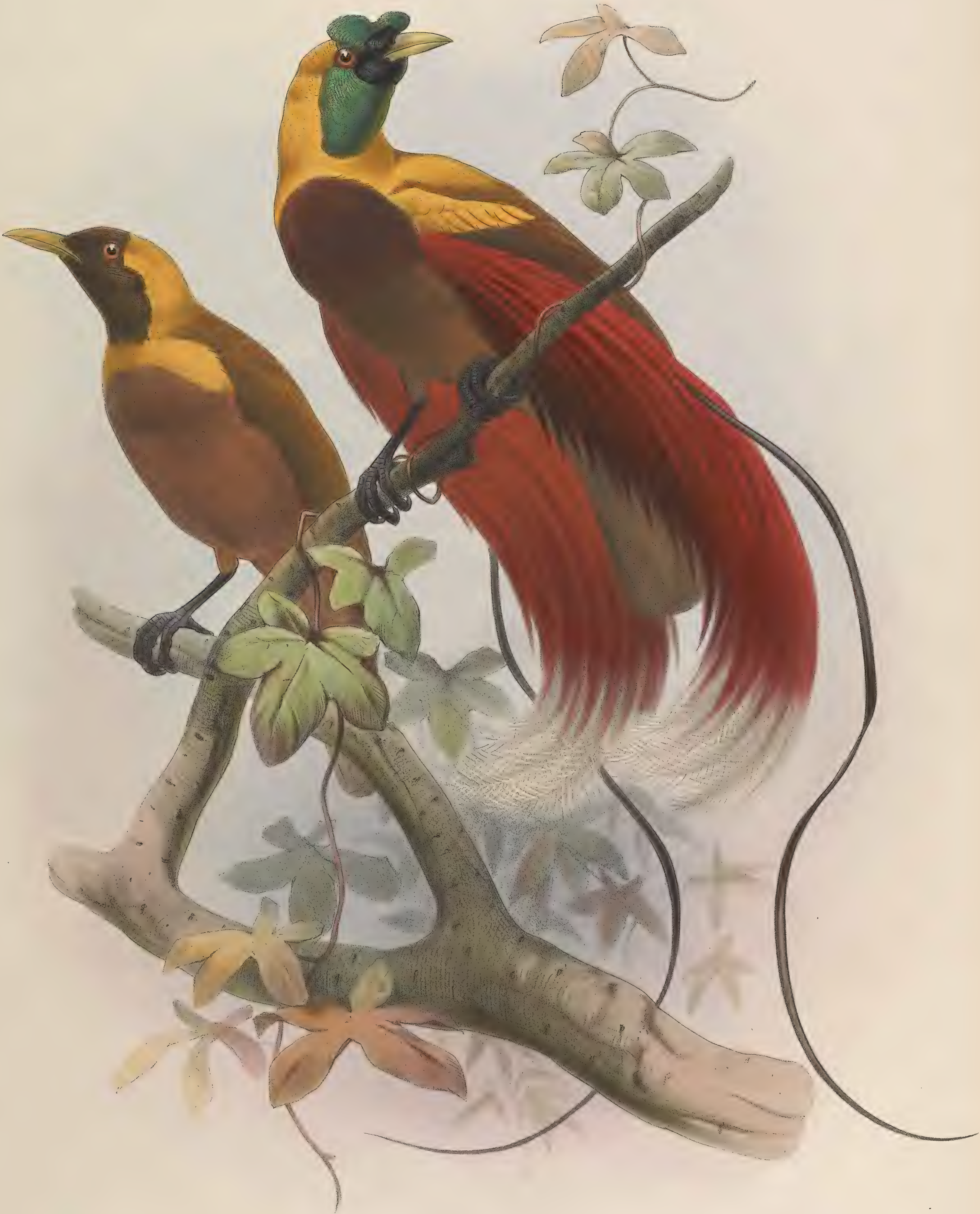
Male.—Feathers of the head and throat short, upright, velvety in texture. Head, back of neck, and upper part of back rich yellow; rest of upper parts, wings, and tail rich reddish brown. Front, chin, throat, extending in a curved line on the side of the neck to behind the eye, deep metallic green, becoming so dark upon the chin as to appear black. The greater wing-coverts are edged with a line of bright yellow. Entire underparts rich rufous brown. From each side of the body, beneath the wings, springs a mass of lengthened plumes, usually lying along the body and drooping at the ends. These can be elevated over the back at the will of the bird, and then cover it with a golden cloud of quivering feathers. The under ones, which are the shortest, are a rich golden yellow, divided from the upper ones by a line of feathers that are deep chestnut near their tips. The upper and longest feathers, having both webs split and tufted near the edges, are white with a purplish gloss. The webs contract near the end of the feathers, which terminate in lengthened points. From the centre of the tail spring two webless chestnut-coloured shafts, that separate to either side, and attain a length of from eighteen to twenty inches. Bill lead-colour. Feet and tarsi black, claws horn-colour.

A young male differs from the adult just described in being devoid of the beautiful side-plumes, and in having only the upper part of the breast deep chestnut, the rest of the underparts being white. Under tail-coverts reddish brown.

Another, still more immature, has the entire underparts pure white, with no trace of chestnut; and the long central shafts are webbed for half their length with the same reddish brown as the back, and have a small spatule at the tip of the same colour, one of these extending about four inches beyond the tail, the other twice that distance.

A male still younger than the preceding has the entire head and throat a very dark glossy chestnut like the female, without any green feathers visible, the upper part of the back olive-brown, underparts pure white, and is without any lengthened shaft springing from the tail.

Female.—Head and throat rich dark brown, darkest on the front and chin. Hinder part of neck yellowish bronze, which colour also extends on to the mantle, becoming darker as it reaches the back. Wings, tail, and the rest of the upper parts reddish brown. Entire underparts white, reddish upon the flanks. Upper mandible yellowish horn-colour; under mandible lead-colour, yellow at tip. Feet and tarsi dark reddish brown.



J. Wolf & J. Smit del et lith

M & N. Hanhart imp.

PARADISEA SANGUINEA.

PARADISEA SANGUINEA.

RED BIRD OF PARADISE.

RED BIRD OF PARADISE, Lath. Gen. Hist. of Birds (1822), vol. iii. p. 186. sp. 4.

PARADISEA SANGUINEA, Shaw, Gen. Zool. (1809) vol. vii. pt. i. p. 487, pl. 59, (1826) vol. xiv. p. 76.—Gray, Hand-l. Birds (1870), pt. ii. p. 16. sp. 6249.

PARADISEA RUBRA, Vieill. Gal. Ois. (1825) vol. i. p. 152, pl. 99.—Less. Trait. Ornith. (1831) p. 336, pl. 3.—Id. Voy. Coquil. (1826) pl. 27, text. p. 660.—Schleg. Mus. Pays-Bas (1867), p. 84.—Cuv. Règn. Anim. (1829) vol. i. p. 427.—Gray, Gen. Birds, vol. ii. pl. 79.—Wagl. Syst. Av. (1827) sp. 3.—Schleg. Dier. fig. p. 171.—Bon. Consp. Gen. (1850) p. 413. sp. 3.—Gray, Proc. Zool. Soc. (1861) p. 436.—Wall. Proc. Zool. Soc. (1862) p. 160.—Id. Ibis, (1859) p. 111, (1861) p. 287.—Bechst. Kurze Ueber. (1811) p. 131. sp. 3.—Wall. Malay Archip. vol. ii. pp. 214, 221, 243.—Schleg. Journ. für Ornith. (1861) p. 385.—Von. Rosenb. Journ. für Ornith. (1864) p. 129 —Schleg. Tijdsch. Dierk. pt. ii. p. 249.—Less. Ois. Parad. (1835) Syn. p. 8. sp. 3; Hist. Nat. p. 160, pls. 7 & 8.

L'OISEAU DE PARADIS ROUGE, Levaill. Hist. Nat. des Ois. Parad. (1806) vol. i. pl. 6.

LE PARADIS ROUGE, Vieill. Ois. dor. (1802) vol. ii. p. 14, pl. 3.

HAB. Waigiou (WALLACE), islands of Ghemien and Batanta (BERNSTEIN).

THIS beautiful bird, remarkable for the rich red plumes that spring from its sides and afford so conspicuous a decoration, is found upon the island of Waigiou and the neighbouring ones of Ghemien and Batanta. The list of synonyms given above will serve to show that for a long time it has been known to, and quoted by, many authors; yet we were practically ignorant of its nature and mode of life until Mr. Wallace visited one of the islands where it has its home, and published his account of it in the work to which I have so often had occasion to allude. I will let Mr. Wallace tell his story in his own words regarding the capture of this beautiful species.

"When I first arrived I was surprised at being told that there were no Paradise-birds at Muka, although there were plenty at Bessir, a place where the natives caught them and prepared the skins. I assured the people I had heard the cry of these birds close to the village; but they would not believe that I could know their cry. However, the very first time I went into the forest I not only heard but saw them, and was convinced there were plenty about; but they were very shy, and it was some time before we got any. My hunter first shot a female; and I one day got very close to a fine male. He was, as I expected, the rare red species, *Paradisea rubra*, which alone inhabits this island, and is found nowhere else. He was quite low down, running along a bough searching for insects, almost like a Woodpecker; and the long black riband-like filaments in his tail hung down in the most graceful double curve imaginable. I covered him with my gun, and was going to use the barrel, which had a very small charge of powder and No. 8 shot, so as not to injure his plumage; but the gun missed fire, and he was off in an instant among the thickest jungle. Another day we saw no less than eight fine males at different times, and fired four times at them; but though other birds at the same distance almost always dropped, these all got away, and I began to think we were never to get this magnificent species. At length the fruit ripened on the fig-tree close to my house, and many birds came to feed on it; and one morning, as I was taking my coffee, a male Paradise-bird was seen to settle on its top. I seized my gun, ran under the tree, and, gazing up, could see it flying across from branch to branch seizing a fruit here, and another there; and then, before I could get a sufficient aim to shoot at such a height (for it was one of the loftiest trees of the tropics), it was away into the forest. They now visited the tree every morning; but they stayed so short a time, their motions were so rapid, and it was so difficult to see them, owing to the lower trees which impeded the view, that it was only after several days' watching, and one or two misses, that I brought down my bird—a male in the most magnificent plumage. * * * * I had only shot two Paradiseas on my tree when they ceased visiting it, either owing to the fruit becoming scarce, or that they were wise enough to know there was danger. We continued to hear and see them in the forest, but after a month had not succeeded in shooting any more; and as my chief object in visiting Waigiou was to get these birds, I determined to go to Bessir, where there are a number of

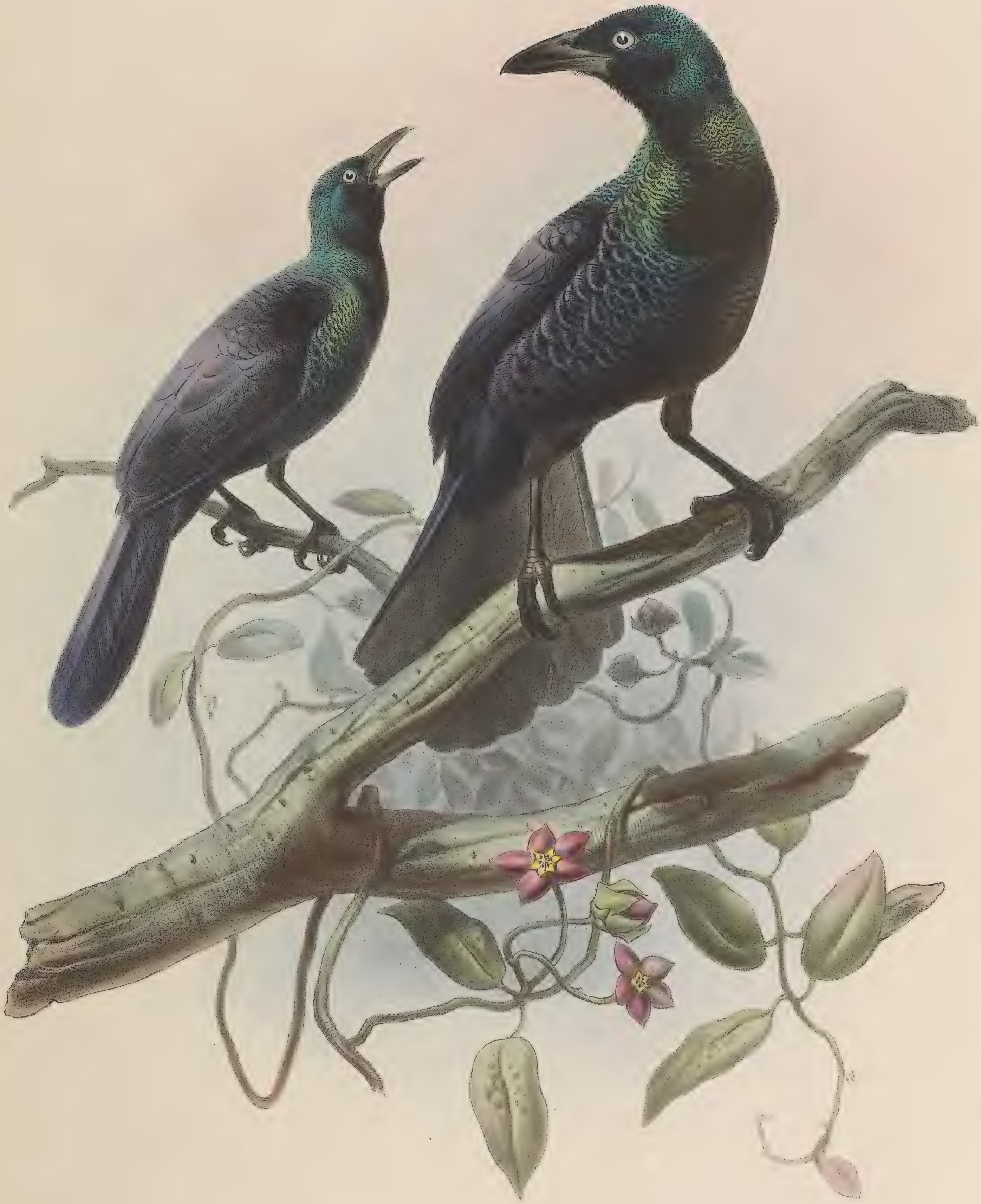
Papuans who catch and preserve them. I hired a small outrigger boat for this journey, and left one of my men to guard my house and goods. * * * * My first business was to send for the men who were accustomed to catch the Birds of Paradise. Several came; and I showed them my hatchets, beads, knives, and handkerchiefs, and explained to them as well as I could by signs the price I would give for fresh-killed specimens. It is the universal custom to pay for every thing in advance; but only one man ventured to take goods to the value of two birds. The rest were suspicious, and wanted to see the result of the first bargain with the strange white man, the only one who had ever come to their island. After three days my man brought me the first bird—a very fine specimen, and alive, but tied up in a small bag, and consequently its tail- and wing-feathers very much crushed and injured. I tried to explain to him, and to others that came with him, that I wanted them as perfect as possible, and that they should either kill them or keep them on a perch with a string to their leg. As they were now apparently satisfied that all was fair, and that I had no ulterior designs upon them, six others took away goods, some for one bird, some for more, and one for as many as six. They said they had to go a long way for them, and that they would come back as soon as they caught any. At intervals of a few days or a week some of them would return, bringing me one or more birds; but though they did not bring any more in bags, there was not much improvement in their condition. As they caught them a long way off in the forest, they would scarcely ever come with one, but would tie it by the legs to a stick, and put it in their house till they caught another. The poor creature would make violent efforts to escape, would get among the ashes, or hang suspended by the leg till the limb was swollen or half-putrefied, and sometimes die of starvation and worry. One had its beautiful head all defiled by pitch from a dammar torch; another had been so long dead that its stomach was turning green. Luckily, however, the skin and plumage of these birds is so firm and strong that they bear washing and cleaning better than almost any other sort; and I was generally able to clean them so well that they did not perceptibly differ from those I had shot myself. Some few were brought me the same day they were caught, and I had an opportunity of examining them in all their beauty and vivacity. As soon as I found they were generally brought alive, I set one of my men to make a large bamboo cage, with troughs for food and water, hoping to be able to keep some of them. I got the natives to bring me branches of a fruit they were very fond of; and I was pleased to find they ate it greedily, and would also take any number of live grasshoppers I gave them, stripping off the legs and wings, and then swallowing them. They drank plenty of water, and were in constant motion, jumping about the cage from perch to perch, clinging to the top and sides, and rarely resting a moment the first day till nightfall. The second day they were always less active, although they would eat as freely as before; and on the morning of the third day they were almost always found dead at the bottom of the cage, without any apparent cause. Some of them ate boiled rice, as well as fruits and insects; but, after trying many in succession, not one out of ten lived more than three days. The second or third day they would be dull, and in several cases they were seized with convulsions and fell off the perch, dying a few hours afterwards. I tried immature as well as full-plumaged birds, but with no better success, and at length gave it up as a hopeless task, and confined my attention to preserving specimens in as good a condition as possible.

"The Red Birds of Paradise are not shot with blunt arrows, as in the Aru Islands and some parts of New Guinea, but are snared in a very ingenious manner. A large climbing Arum bears a red reticulated fruit, of which the birds are very fond. The hunters fasten this fruit on a stout forked stick, and provide themselves with a fine but strong cord. They then seek out some tree in the forest on which these birds are accustomed to perch, and, climbing up it, fasten the stick to a branch and arrange the cord in a noose so ingeniously that when the bird comes to eat the fruit its legs are caught; and by pulling the end of the cord, which hangs down to the ground, it comes free from the branch and brings down the bird. Sometimes, when food is abundant elsewhere, the hunter sits from morning till night under his tree, with the cord in his hand, and even for two or three whole days in succession, without even getting a bite; while, on the other hand, if very lucky, he may get two or three birds in a day. There are only eight or ten men in Bessir who practise this art, which is unknown anywhere else in the island. I determined, therefore, to stay as long as possible, as my only chance of getting a good series of specimens; and although I was nearly starved, every thing eatable by civilized man being scarce or altogether absent, I finally succeeded. * * * * Towards the end of September it became absolutely necessary for me to return, in order to make our homeward voyage before the end of the east monsoon. Most of the men who had taken payment from me had brought the birds they had agreed for. One poor fellow had been so unfortunate as not to get one, and he very honestly brought back the axe he had received in advance; another, who had agreed for six, brought me the fifth two days before I was to start, and went off immediately to the forest again to get the other. He did not return, however; and we loaded our boat, and were just on the point of starting when he came running down after us, holding up a bird, which he handed to me saying, with great satisfaction, 'Now I owe you nothing.' These were remarkable and quite unexpected instances of honesty among savages, where it would have been very easy to them to have been dishonest, without fear of detection or punishment. * * * The Red Bird of Paradise offers a remarkable case of restricted range, being entirely confined to the small island of Waigiou, off the north-west extremity of New Guinea, where it replaces the allied species found in the other islands."

Male.—Fore part of head, chin, cheeks, and throat rich metallic grass-green, appearing black upon the chin. Over each eye the feathers are raised, forming two short tufts. Back of head orange-yellow. All the feathers of the head are short, velvety, and closely pressed together, and project over the bill, above and below, hiding the nostrils. Upper part of back, scapulars, shoulders, upper part of breast, and rump orange-yellow. Wings, tail, back, and entire underparts dark chestnut-brown, darkest on the breast, where it is almost a blackish brown. From each side beneath the wings spring a mass of deep-red plumes, which glisten like glass, as is seen in the upper part of the plumage of *C. regius*, becoming white towards the ends, on both webs and shaft, the former widely separated and hair-like. From the lower part of the back fall two very long webless shafts, black and twisted, which descend on either side of the tail in graceful double curves, and, like the side plumes, constitute very conspicuous appendages. The bill is lead-colour at the base, light horn-colour for the remaining portion. Feet and tarsi black.

Male in the second moult: similar to the adult just described; but the upper part of the back is much darker, ochreous brown, and the rump is chestnut-brown like the wings, instead of yellow. The side plumes are wanting, not having yet appeared, although the feathers are somewhat elongated beneath the wings. The long wiry shafts have towards their ends narrow rufous brown webs, which disappear in the adult dress.

Female.—Fore part of head, chin, cheeks, and throat very dark chestnut-brown. Back of head, and upper part of breast, yellow. Upper part of back or mantle dark ochre-yellow. Entire rest of plumage, including wings and tail, dark brownish chestnut. Bill horn-colour, lead-colour at base. Feet and tarsi black.



J. Wolf & J. Smit del. & lith.

M & N Hanhart imp

MANUCODIA CHALYBEUS.

MANUCODIA CHALYBEA.

GREEN MANUCODE.

MANUCODIA CHALYBEA, Bodd. Tabl. Plan. Enl. d'Hist. Nat. de Daubent. (1783).
PARADISEA VIRIDIS, Gmel. Syst. Nat. (1788) vol. i. pt. i. p. 402. sp. 8.—Cuv. Règn. Anim. (1829) vol. i. p. 354.
LE CHALYBÉ, Buff. Plan. Enlum. vol. iii. pl. 634.
CHALYBÆA VIRIDIS, Schleg. Tijdsch. Dierk. pt. v. p. 49.—Id. Mus. Pays-Bas (1867), p. 122.
PHONYGAMA CHALYBÆUS, Less. Trait. Ornith. (1831) p. 344. sp. 1.
LE CHALIBÉ, Levaill. Ois. de Parad. (1806) p. 64, pl. 23.—Vieill. Ois. dor. (1802) vol. ii. p. 24, pl. 10.
PHONYGAMA VIRIDIS, Bon. Consp. Gen. Av. p. 368 (1850).—Gray, Gen. Birds, vol. ii. p. 303. sp. 1.—Rosenb. Journ. für Orn. (1864) p. 122.
MANUCODIA VIRIDIS, Gray, Proc. Zool. Soc. (1861) p. 436.—Id. Hand-l. Birds, pt. ii. (1870) p. 17. sp. 6257.
CRACTICUS CHALYBEUS, Vieill. Nouv. Dict. d'Hist. Nat. (1816) vol. v, p. 355.
PARADISEA CHALYBEA, Lath. Ind. Ornith. (1790) vol. i. p. 197. sp. 10.—Shaw, Gen. Zool. (1809) vol. vii. p. 504, pl. 71.
BLUE-GREEN PARADISE-BIRD, Lath. Gen. Syn. vol. ii. (1782) p. 482. sp. 7.

HAB. New Guinea. Regions near the coast and mountain-ranges of the interior (ROSENBERG).

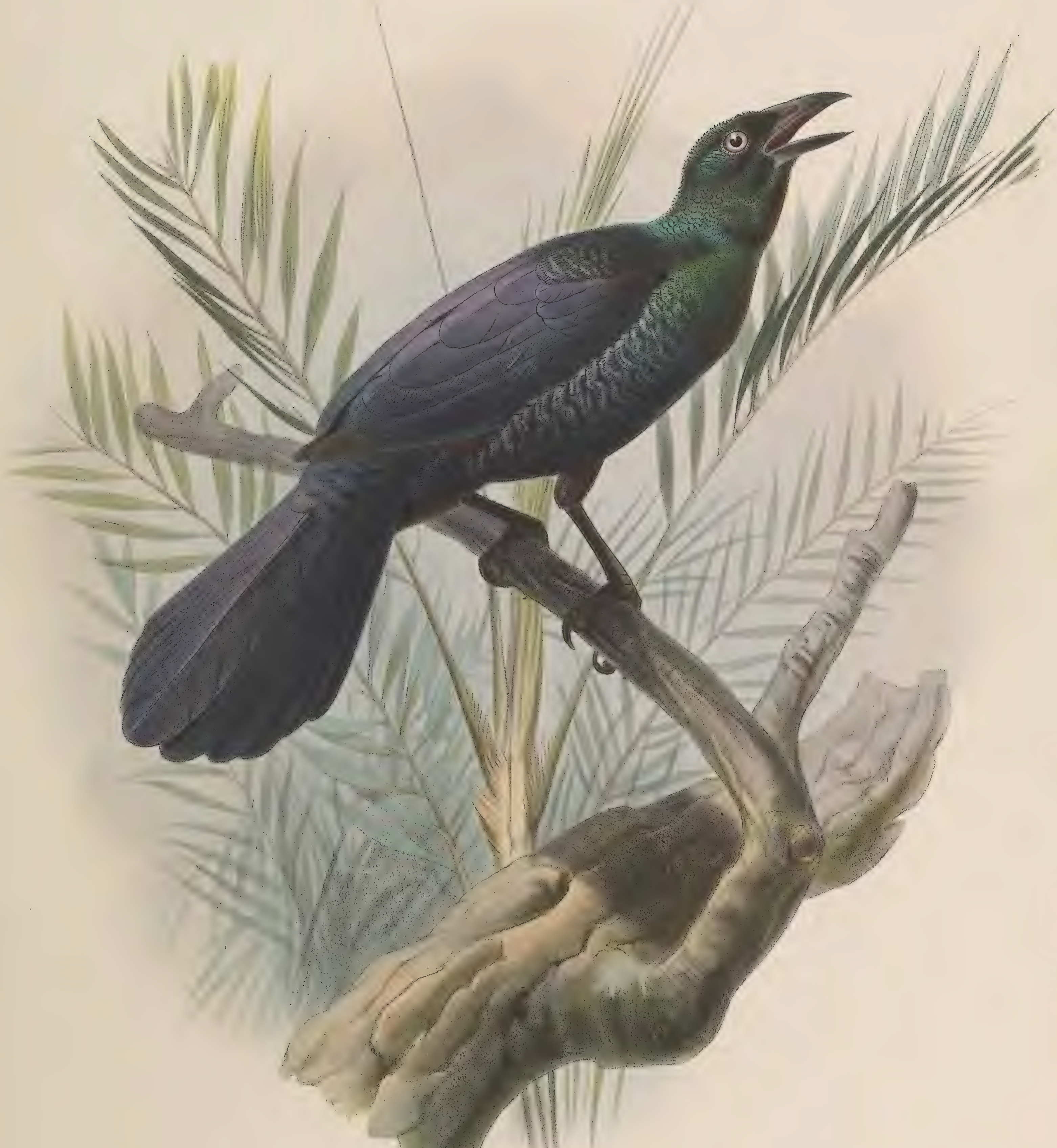
THIS species has long been known to ornithologists; but until very lately it was always in a more or less mutilated form, the specimens received at rare intervals having been rudely prepared by the natives, and wanting either legs or wings, not unfrequently both. Latterly, however, by means of the expeditions sent to explore the unknown land of New Guinea by the Dutch and other Governments, as well as through the perseverance of private individuals, perfect examples of this singular form of Paradise-bird have been received, and we are thus enabled to ascertain its affinity to the members of this family. Its large and stout bill exhibits its relationship to the Corvidæ, to which family the *Paradiseæ* are allied; but like these last it has the two outer toes of each foot connected closely together, so that they cannot be spread when the bird is perched, differing in this respect from the feet of the majority of the members of the feathered tribes.

No account whatever of the habits and economy of this species has ever been recorded, those who have procured it in its native forests having apparently paid but little or no attention to these important points; and thus our knowledge of the bird is confined to that which may be gathered from the examination of the prepared skin.

The Green Manucode resembles in some respects its relative the *M. atra*, but may be distinguished in nearly all stages of plumage by the frizzled state of the feathers upon the head and neck; in some specimens, indeed, these peculiarly formed feathers encroach upon the upper part of the back and breast; and they frequently possess variegated colours of different metallic hues.

Feathers of the head short, closely pressed together, elongated over the eyes into diminutive tufts, black, with the tips a bright metallic blue; throat, neck, and upper part of breast light green, the feathers on the breast appearing as though the tips were frizzled. Back and wings bright metallic purplish blue, very glossy upon the secondaries; primaries rich brown; underparts similar to the back, but the blue not so rich. Tail purplish blue like the wings. Bill black; feet black.

The Plate represents the species of the natural size.



J. Wolf & J. Smit del et lith.

M & N Hanhart imp

MANUCODIA ATRA.

MANUCODIA ATRA.

BLACK MANUCODE.

PHONYGAMA ATRA, Less. Voy. Coq., texte (1826), vol. i. p. 638.—Id. Trait. Ornith. (1831) p. 344. sp. 2, juv.—Gray, Gen. Birds, vol. ii. (1845) p. 303. sp. 3.

MANUCODIA ATRA, Gray, Proc. Zool. Soc. (1859) p. 158. sp. 49, (1861) p. 436.—Id. Hand-l. Birds, pt. ii. (1870) p. 17. sp. 6260.

CHALYBEA ATRA, Schleg. Mus. Pays-Bas (1867), p. 121.

Hab. New Guinea (Less., Wall.); Arou, Salwatti, Waigiou, Ghemien (Bernstein).

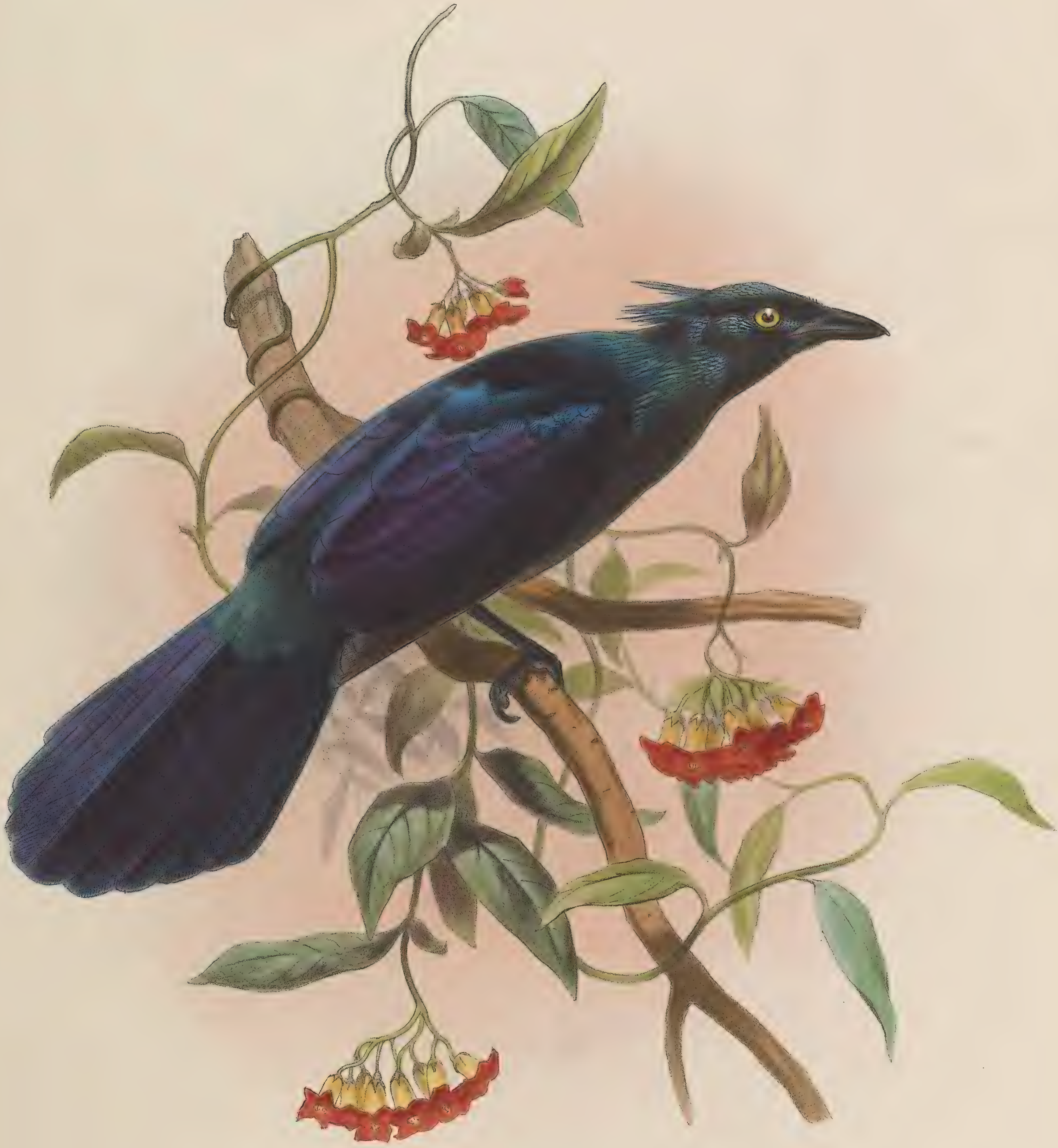
Lesson, who first described this species as distinct from the *Manucodia chalybea* on specimens procured by himself from New Guinea, in the work published on the voyage of the Coquille, remarks as follows:—

"Among the numerous Birds of Paradise that the inhabitants of New Guinea brought every day on board were found the Calybés, deprived of their legs and feet, and a stick thrust through the body, as is done with the true Birds of Paradise. Also we procured several times in our hunts a bird which only differed from that of which we speak by its darker plumage and by the proportions of the body, bill, wings, and tail. We regard it as a distinct species from the Calybé of authors; for all those that we saw were adults, and in perfect plumage, and were not at all to be confounded with the ordinary Calybé either before or after moulting.

"This Calybé lives alone in the forests of New Guinea. We met with it several times perched amid the great trees whose fruits it seeks; in its habits it appears closely to resemble the Crow. The Papuans give it the name of *mausinéme*."

Head covered with short upright feathers, closely pressed together, with the throat and neck a beautiful light green. Back and wings cold metallic green, with a slight purplish tinge on the secondaries. Primaries dark brown. Underparts light green similar to the back. Tail black, with a purple tinge, strongest in the centres of the webs, between the shaft and the edge. Bill and feet black.

The figures in the Plate are life-size.



J. Wolf & J. Smit del et lith

M&N. Hanhart imp

MANUCODIA KERAUDRENI.

MANUCODIA KERAUDRENI.

KERAUDREN'S MANUCODE.

PHONYGAMA KERAUDRENI, Less. Man. d'Orn. (1828) tom. i. p. 141.—Id. Voy. Coquille (1826), texte, vol. i. p. 636.—Gray, Gen. of Birds (1845), vol. ii. p. 303. sp. 2.—Less. Traité d'Ornith. (1831) p. 344. sp. 3.—Bon. Consp. Gen. Av. (1850) p. 368.—Rosenb. Journ. für Ornith. (1864) p. 123.

BARITA KERAUDRENI, Less. Voy. Coquille, Atlas, t. 13.

MANUCODIA KERAUDRENI, Gray, Hand-l. Birds, part ii. (1870) p. 17. sp. 6258.—Id. Proc. Zool. Soc. (1859) p. 158. sp. 50, (1861) p. 436.—Gould, B. Austr., Suppl. pl.

CHALYBEUS CORNUTUS, Cuv. Règn. Anim. (1829) vol. i. p. 354.—Gould, Voy. Rattlesnake, vol. ii. p. 357.

CHALYBEUS KERAUDRENI, Schleg. Mus. Pays-Bas (1867), p. 120.

PHONYGAMA LESSONIA, Swains. Class. Birds, vol. ii. p. 264.

MANUCODIA GOULDI, G. R. Gray, Proc. Zool. Soc. (1859) p. 158, note.—Gould, Hand-b. Birds Austr. vol. i. p. 236. Gray, Hand-l. Birds, part. ii. (1870) p. 17. sp. 6259.

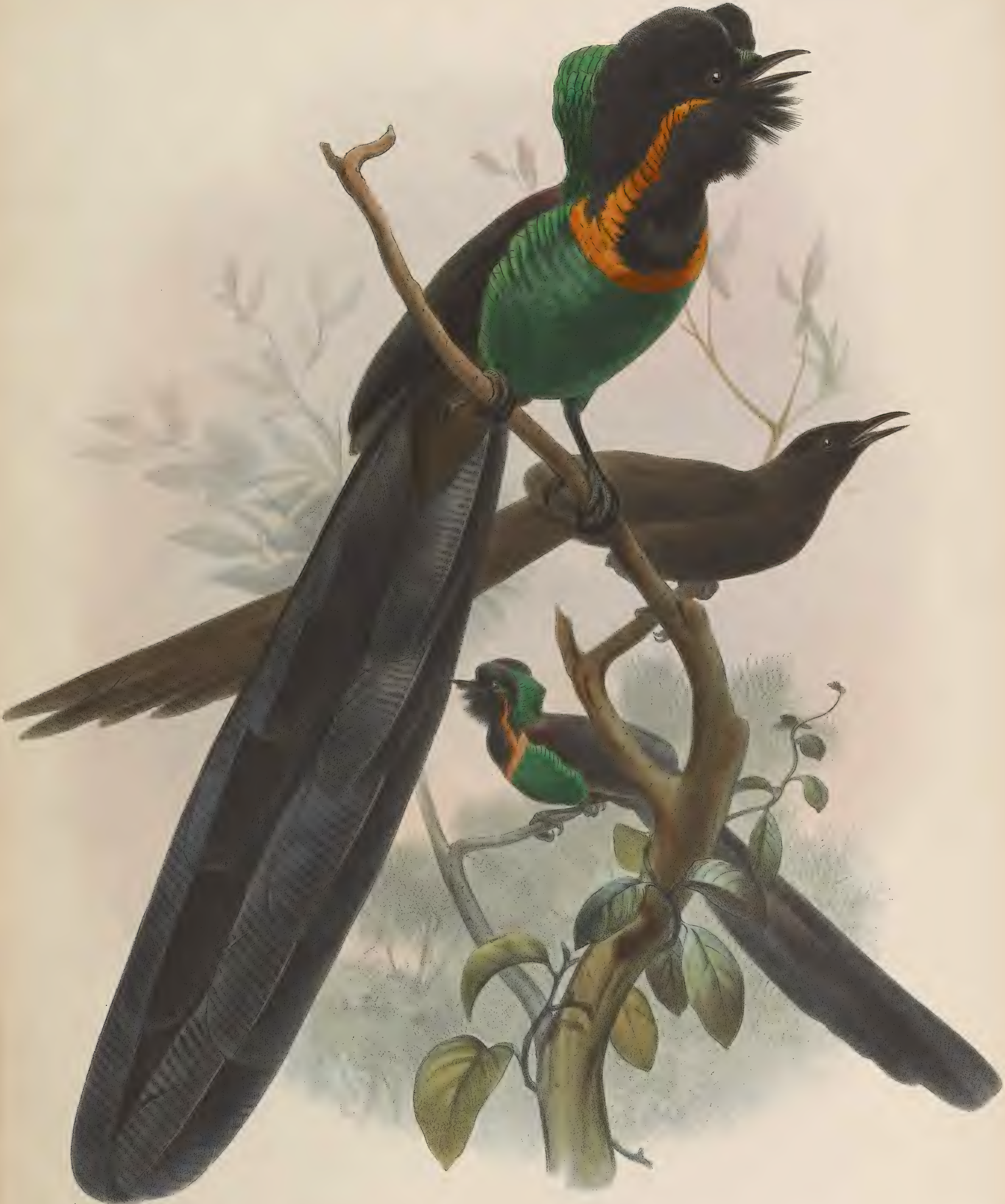
HAB. New Guinea, Australia.

THIS singular bird was first described by Lesson, who procured it in New Guinea during the voyage of the 'Coquille;' and it was figured and described in the splendid work published on the return of that expedition. It is remarkable, among other characters, for the plumes which spring in tufts from each side of the head, forming a kind of double demi-crest. But the most extraordinary part of the bird's organization is the trachea, or windpipe, which is seventeen inches and a half in length, and formed of a hundred to a hundred and twenty cartilaginous rings. "On leaving the lungs it is directed first to the sternum, upon the outer edge of which it is bent to descend outwardly, and back upon the abdomen above the muscles which constitute this part, and under the teguments which invest the skin. There the tracheal artery turns, ascends for about an inch, immediately returns, forming a little handle; and the tube, embracing the preceding part, redescends and forms in winding again an entire circle, which thus unites itself to the external edge of the first circle, forming upon the soft parts of the abdomen a thick platform, composed of three back-turns of the trachea and reunited by the membranous parts. The air-tube continues to ascend upon the sternum, the length of the neck uniting as usual to the branches of the os hyoides at the root of the tongue. The conformation of this organ, of which we are unacquainted with any analogue among birds, if we except something similar in the Swan and Hocco, permits the Phonygame to modulate its notes, as may be done with the French horn; also this bird is gifted with a song essentially musical. The notes that the *P. keraudreni* raises in the depths of the forests of New Guinea prevent it from being confounded with any other species of bird. They are clear, distinct, and sonorous, and pass successively through nearly all the notes of the gamut; our sailors called it the Whistling bird. But, suspicious and rare, we were only able to procure two individuals of this bird, in the great trees which border the harbour of Dorey, where we were anchored. The Papous of Dorey called it *mousinême*, and those of Rony *issape*."

The Australian form of this species was separated by Mr. G. R. Gray, and the name of *M. gouldi* given to it, on account of a slight difference in the hue of the plumage—the New-Guinea bird having more of a purple reflection, while the Australian is inclined to a greenish hue. I do not believe that there is more than one species; and I think that when we become better acquainted both with the species and the countries it inhabits, we shall find the two styles ranging into one another.

As the *M. keraudreni* is a species of considerable rarity, nothing is known of its economy and habits.

General colour green, with purple reflections. Feathers of the head short and compressed as in the members of the genus *Paradisea*. On either side of the occiput spring two slender tufts of lengthened feathers, of the same colour as the head. Feathers of the neck and throat greatly lengthened, of a lanceolate form, descending over the upper part of the back and breast. Wings rich purple, primaries purplish brown. Tail blue, with a beautiful purple gloss. Feet and bill black.



J. Wolf & J. Smit. del et lith.

M & N Hanhart, imp

ASTRAPIA NIGRA

ASTRAPIA NIGRA.

INCOMPARABLE BIRD OF PARADISE.

GORGET BIRD OF PARADISE, Lath. Gen. Syn. (1782) p. 478, pl. xx.—Id. Gen. Hist. vol. iii. (1822) p. 196. sp. 14.

PARADISEA NIGRA, Gmel. Syst. Nat. vol. i. pt. i. (1788) p. 401. sp. 5.—Bechst. Kurz. Uebers. (1811) p. 132. sp. 7.

PARADISEA GULARIS, Lath. Ind. Ornith. vol. ii. (1790) p. 196, sp. 5.—Shaw, Gen. Zool. vol. vii. pt. ii. (1809) p. 501, pls. 69 & 70.

LA PIE DE PARADIS OU L'INCOMPARABLE, Levaill. Hist. Nat. Ois. Parad. vol. i. (1806) pls. 20, 21, & 22.

LE HAUSSE-COL DORÉ, Vieill. Ois. Dor. vol. ii. (1802) p. 22, pls. 8 & 9.

EPIMACHUS NIGER, Schleg. Mus. Pays-Bas, (1867) p. 94.

L'OISEAU DE PARADIS À GORGE D'OR, Sonnini, edit. Buff. t. ix. p. 23.

ASTRAPIA GULARIS, Vieill. Gal. des Ois. tom. i. p. 109, pl. 107 (1825).—Less. Trait. Ornith. (1831) p. 338.—Schleg. Journ. für Ornith. (1861) p. 386.—Von Rosenb. Journ. für Ornith. (1864) p. 131.—Less. Ois. Parad. (1835), Syn. p. 18. sp. 8.—Id. Hist. Nat. p. 106, pls. 21, 22, & 23.

ASTRAPIA NIGRA, Bonap. Consp. Gen. Av. (1850) p. 414.—Gray, Gen. Birds, vol. ii. p. 326. sp. 1.—Id. List Gen. Birds (1855), p. 65.—Id. Proc. Zool. Soc. (1861) p. 436.—Wall. Proc. Zool. Soc. (1862) pp. 154, 155, 159, & 160.—Shaw, Gen. Zool. vol. xiv. (1826) sp. 75.—Wall. Malay Archip. vol. ii. p. 257.

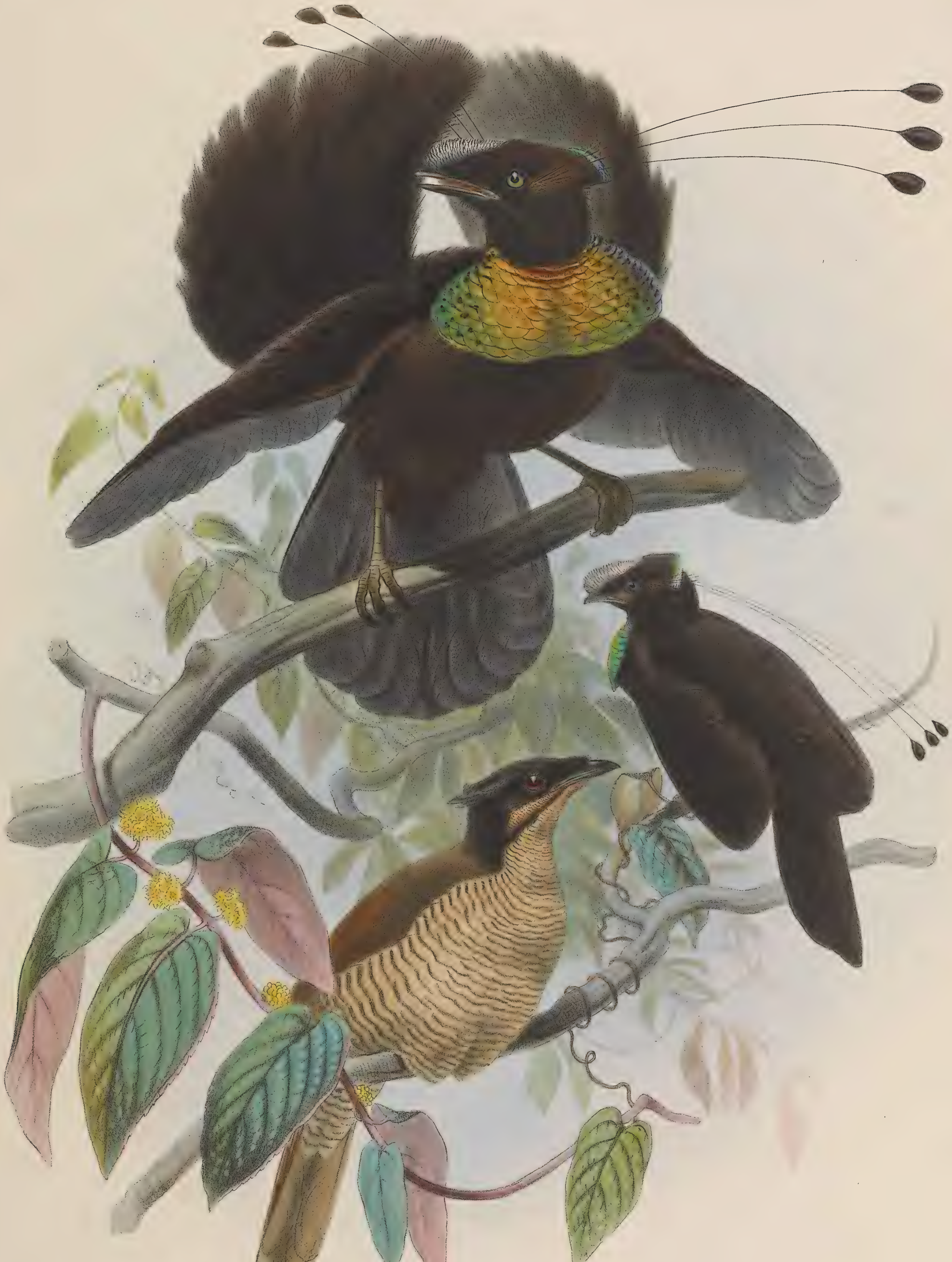
HAB. New Guinea (Interior), Island of Jobie? (SCHLEGEL).

I HAVE had occasion frequently, when writing of the birds comprised in this Monograph, to call attention to the extraordinary and unusual display of most beautiful plumage presented for our admiration by many of the members of the Paradiseidæ. But in the present instance words, equally with all attempts at pictorial representation, fail to express the gorgeous appearance of the wonderful creature whose portrait, so far as art can accomplish, is here given. It would seem as if Nature herself had striven to surpass her previous creations in the production of this magnificent bird, and to the liberal gifts of tufts, and crest, and lengthened tail had added that of the most brilliant colouring—so bright and fiery in certain parts as almost to cause the artist to despair of representing it by the ordinary means. In fact, we may well feel assured that nothing in the power of man can give an adequate idea of the splendid appearance of an adult male of this species when at liberty in his woods; his dress of metallic colours flashes back, as he moves amid the forest, in equally brilliant scintillations, the fiery rays of a tropical sun. The interior of New Guinea, among whose unknown mountain-ranges so many of this family have their homes, is also the native region of the *Astrapia nigra*; and from this *terra incognita* a few mutilated skins have at various times been brought to Europe. Until very lately, no white man had been able to penetrate into the interior of New Guinea, researches having been confined to the coasts, all ingress having been opposed by the savage tribes who inhabit the land, either from their fear of some unknown evil falling upon themselves or from jealousy that a rival tribe might reap some supposed advantage from the strange white man's presence among them. Another reason to explain the great difficulty of travelling in New Guinea is the fact that disputes between the tribes of the coast and those of the interior are constantly arising; and those which to-day might be at peace with each other, and willing to allow a traveller to pass their respective boundaries, might be to-morrow in deadly strife (so slight are the circumstances that inaugurate savage warfare, and so rapidly does it attain its deadliest phase), and therefore render it impossible for any one to pass from one nation to another. Only one European has ever succeeded in penetrating to the mountains of New Guinea—M. von Rosenburg, who, after several years of vain effort, only lately succeeded in finding a vulnerable spot, and was enabled to reach the mountains and ascend to the height of from 4000 to 5000 feet. This traveller was sent out by the Government of the Netherlands in the service of science to procure materials to enrich their already unrivalled museum in Leyden; and the success of their efforts (for M. von Rosenburg and his co-labourers have made many discoveries in natural science in their journeyings in the Eastern archipelago) only shows how much a well-directed effort can accomplish towards the increase of our knowledge of the world's contents, and also to the advancement of science; for although among the smallest of European governments, yet Holland has always been foremost in well-directed expeditions that should bring to light the products of distant portions of the globe. Although M. von Rosenburg reached the mountains, and advanced a considerable distance up their rugged sides, yet, from the great amount of rain and other difficulties which beset his path, he did not accomplish as much as he had hoped or expected. Still he procured several species new to science, and, above all, shot and sent to Leyden perfect specimens of many of the Birds of Paradise residing in that inhospitable region, which we had only known previously by the mutilated skins of native preparation. Among these Paradiseidæ was the present species; but, whether on account of its being very rare in the full dress, or that it was not the proper season of the year for them to appear in nuptial plumage, M. von Rosenburg did not succeed in procuring the male in the gorgeous livery here represented in the principal figure, but only apparently young birds in the more sombre colours of the second figure in the Plate. I am not aware that any knowledge was obtained regarding the economy and habits of this species, which would be of the greatest interest to naturalists; for up to the present time, of any true Bird of Paradise (to which family we may, without doubt, consider the *Astrapia nigra* to belong), the egg is still unknown and a great desideratum in our museums. Although the male is so gaily attired, the female is a bird of very ordinary appearance, of sombre hues, and entirely destitute of any brilliant or metallic colour.

Male.—Top of head and forehead black, with purple reflections. Feathers around the eyes and cheeks elongated, forming a semicircular crest, velvety black with purple reflections. Lengthened nuchal crest, filling up the space between those on side of the head, brown at base, broadly tipped with brilliant iridescent green. Back and upper tail-coverts rich purple. Wings purple, with green reflections. Primaries black. Feathers of throat and chin greatly elongated, those of the latter extending forward and almost concealing the lower mandible, velvety black with purple reflections. Upper part of breast purplish black. A band of feathers commencing behind and beneath the eye, passing across the breast, and encircling the purplish black of the upper portion, brilliant fiery red, shining like a flame. Underparts rich deep green. Tail composed of twelve broad feathers very much lengthened, crimped on lower side. The two central ones lustrous purple; remaining ones purplish black. The bill, feet, and tarsi are jet-black.

Female.—Head black, with a purple gloss. Upper parts brownish black, with purple reflections. Wings lustrous black, with purple lights. Underparts velvety black, with purple reflections. Tail shorter than that of the male, has two median feathers dark brown, with purple gloss, remainder light brown. Bill, feet, and tarsi black.

Young male.—Head, throat, upper part of breast glossy black. Back and upper tail-coverts brownish black. Primaries and secondaries light brown, rufous on the edge of the outer webs. Abdomen, flanks, and under tail-coverts brownish black, barred irregularly with brownish white, inclined to rufous on the under tail-coverts. Tail-feathers long; two central ones dark brown; remaining ones light brown. Bill, feet, and legs jet-black.



J. Wolf & J. Smit. del. et lith.

M & N. Hanhart. imp.

PAROTIA SEXPENNIS.

PAROTIA SEXPENNIS.

SIX-SHAFTED BIRD OF PARADISE.

PARADISEA SEXPENNIS, Bodd. Tab. Plan. Enlum. (1783).

PARADISEA PENICILLATA, Scop. Flor. et Faun. Insub. (1786) p. 88.

MANUCODE À SIX FILETS, Buff. Plan. Enlum. vol. iii. (1774) p. 198, t. 633.—Briss. Hist. des Ois. (1778) vol. iii. p. 171.

L'OISEAU DE PARADIS À GORGE DORÉE, Sonn. Voy. Nouv. Guin. (1776) p. 158, pl. 97.

GOLDEN-BREASTED BIRD OF PARADISE, Lath. Gen. Syn. (1782) p. 481, vol. ii.—Id. Gen. Hist. Birds (1822), vol. iii. p. 194. sp. 12, pl. xlvii.

PARADISEA AUREA, Gmel. Syst. Nat. (1788) vol. i. pt. i. p. 402. sp. 7.—Bechst. Kurze Uebers. (1811) p. 133. sp. 11.

PARADISEA SEXSETACEA, Lath. Ind. Orn. (1790) vol. ii. p. 194. sp. 9.—Shaw, Gen. Zool. (1809) vol. vii. pt. 2, p. 496, pl. 66.—Wagl. Syst. Av. (1827) sp. 6.—Less. Traité d'Ornith. (1831) t. i. p. 337.—Cuv. Règn. Anim. (1829) t. i. p. 427.—Vieill. Encycl. Méth. (1823) t. iii. p. 909, pl. cxliv. fig. 1.

LE SIFILET, Levaill. Hist. Nat. des Ois. Parad. vol. i. (1806) pls. 12 & 13.—Vieill. Ois. dor. (1802) vol. ii. p. 18, pl. 6.—Id. Analyse (1816), p. 33.

PAROTIA SEXSETACEA, Vieill. Gal. Ois. vol. i. (1825) p. 148, pl. xcvii.—Less. Trait. Ornith. (1831) p. 337.—Wall. Proc. Zool. Soc. (1862) p. 160.—Von Rosenb. Jour. für Ornith. (1864) p. 131.—Less. Ois. Parad. (1835) Syn. p. 10. sp. 4; Hist. Nat. p. 172, pls. 10, 11, 11 bis, 12.

PARADISEA AUREA, Bon. Consp. Gen. Av. (1850) p. 414.

PAROTIA AUREA, G. R. Gray, List Gen. Birds (1855), p. 65.—Wall. Ibis (1861), p. 287.

PARADISEA SEXPENNIS, Gray, Proc. Zool. Soc. (1861) p. 436.—Schleg. Journ. für Ornith. (1861) p. 385.—Id. Tijdsch. Dierk. pt. v. p. 50.

PAROTIA SEXPENNIS, Wall. Malay Archip. vol. ii. p. 250.

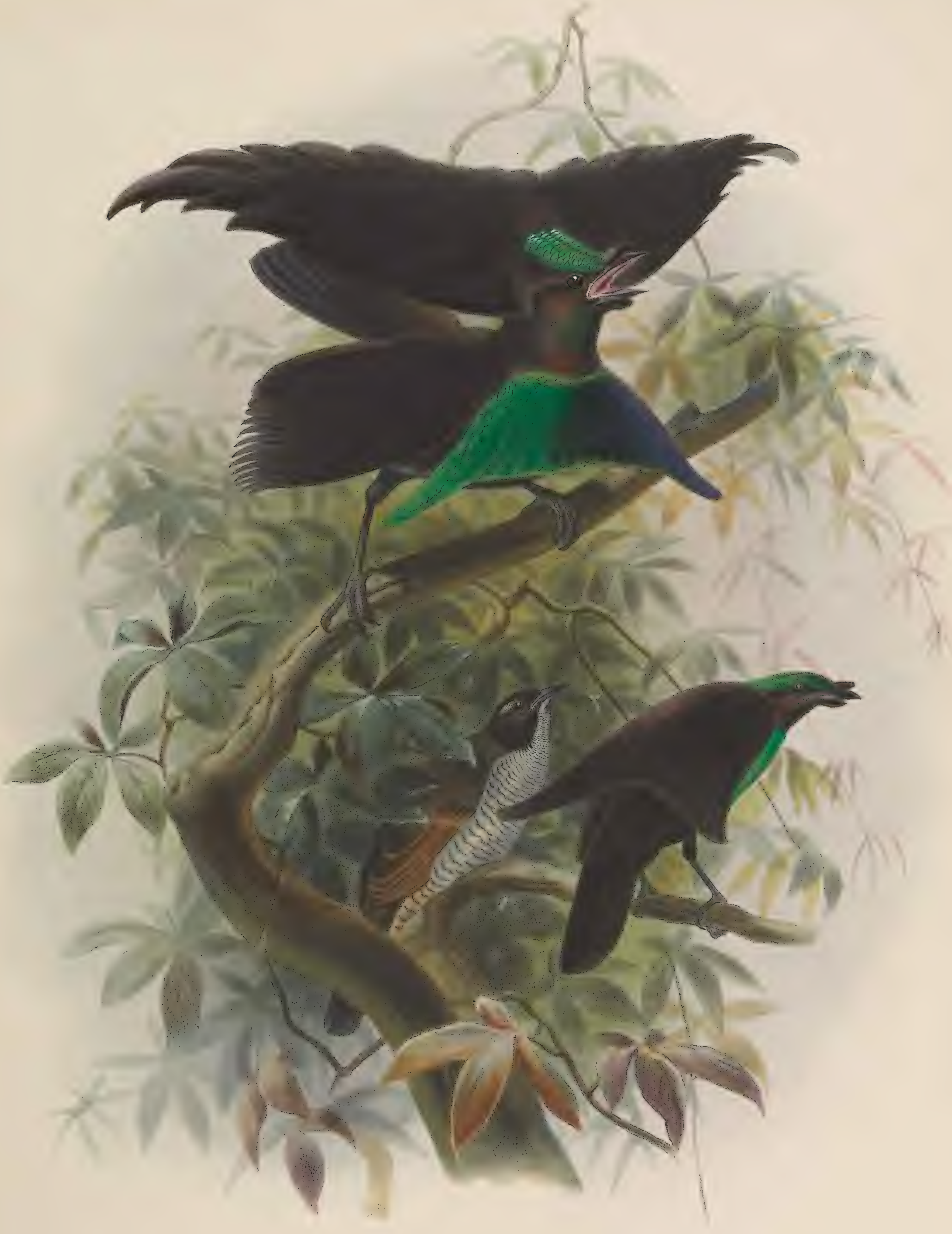
Hab. New Guinea.

Among the wonderful forms to be seen in the Family of the Paradiseidæ this species must be considered as occupying a prominent place. As if nature had exerted herself to produce something totally different from any thing she had before attempted, she decorates this beautiful creature, not only with plumage of the most velvety texture, with a metallic shield upon its breast, and greatly lengthened side-plumes, but causes to spring from each side of the occiput three long wiry shafts, bearing small purplish-black spatules, a mode of adornment unknown elsewhere among the various tribes of feathered creatures.

The Six-shafted Bird of Paradise was first figured by Buffon in 1774, from a much mutilated specimen. The adult male has never yet been procured with all its members intact; an example which is as nearly perfect as any I have ever seen, wanting only the feet, is in my own collection. Although so long known to naturalists, no information regarding its economy or habits has ever been obtained by any of the adventurous travellers who have endeavoured to explore the difficult country it inhabits. During M. von Rosenberg's expedition into the interior of New Guinea, he obtained females of this species, which were widely different from the male in plumage, as a glance at the accompanying plate will show, and also remarkable for a tuft of feathers springing from each side of the head. I am indebted to the kindness of Prof. Schlegel for the loan of a very fine female of this species, procured by M. von Rosenberg, to be figured for this work.

Male.—General colour velvety black, but in certain lights possessing most beautiful and brilliant violet and purple reflections. Feathers of the forehead extending forward and covering nearly two thirds of the bill, the terminal portion tipped with silvery white. Back of head crested, containing in the centre a line of metallic feathers flashing out the most brilliant green conceivable, impossible to describe or represent. From each side of the head, behind the ear-coverts, spring the webless shafts, that extend for about five inches, bearing at their tips a spatule of the same velvety texture and colour as the body of the bird. The upper part of the breast is covered with a broad metallic shield, varying in different lights from gold to coppery bronze and pale greenish-blue, the centre of the feathers composing this wonderful mass being velvety black. At the bottom of and beneath this shield starts a dense mass of plumes, extending nearly to the tail, of the same colour as the rest of the plumage, and which the bird at times raises above its back. It lies away and separate from the feathers of the underparts, and conceals the outline of the body. The rest of the underparts are like the back, with the same violet reflections. Tail much rounded, of the same colour as the wings and body. Bill and feet black.

Female.—Upper part of the head black, a short crest on the occiput and a small tuft on each side behind the eyes, forming a part of the nuchal crest. Upper part of back blackish brown, the rest of the back and wings reddish brown. Underparts buffy white, deepest on the abdomen and flanks, crossed with black on the throat and upper part of the breast, and with dark brown on the lower parts. A narrow black line goes from the base of the lower mandible to the ear. Tail very dark reddish brown, lightest on the edges of the webs. Bill and feet black.



J. Wolf & J. Smit del. et lith.

M & N Hanhart imp.

LOPHORINA ATRA.

LOPHORINA ATRA.

SUPERB BIRD OF PARADISE.

PARADISEA ATRA, Bodd. Tabl. Plan. Enlum. D'Aub. (1783).

L'OISEAU DE PARADIS DE LA NOUVELLE GUINÉE DIT LE SUPERBE, Buff. Plan. Enlum. vol. iii. (1774) p. 197, t. 632.—Briss. Hist. Nat. Ois. vol. iii. (1775) p. 169.

OISEAU DE PARADIS À GORGE VIOLETTE, Sonn. Voy. Nouv. Guin. (1776) p. 157, pl. 96.

PARADISEA NIGRA, Forst. Ind. Zool. p. 34.

SUPERB BIRD OF PARADISE, Lath. Gen. Syn. (1782) p. 479.—Id. Gen. Hist. Birds, vol. iii. (1822) p. 191. sp. 8.

PARADISEA SUPERBA, Gmel. Syst. Nat. (1788) vol. i. pt. i. p. 402. sp. 6.—Scop. Faun. & Flor. Insub. (1786) p. 88.—Lath. Ind. Ornith. vol. ii. (1790) p. 194. sp. 7.—Shaw, Gen. Zool. vol. vii. pt. ii. (1809) p. 494, pls. 63, 64, & 65.—Id. Nat. Misc. vol. xxiv. pl. 1021.—Wagl. Syst. Av. (1827) sp. 5.—Wall. Ibis, (1859) p. 111.—Bechst. Kurz. Uebers. (1811) p. 132. sp. 9.—Schleg. Journ. für Ornith. (1861) p. 385.

FURCATED BIRD OF PARADISE, Lath. Gen. Hist. Birds, vol. iii. (1822) p. 192. sp. 9.

LOPHORINA SUPERBA, Vieill. Analy. (1816) p. 35.

LE SUPERBE, Levaill. Hist. Nat. des Ois. Parad. (1806) vol. i. pls. 14, 15.—Vieill. Ois. dor. (1802) t. ii. pl. vii.

PARADISEA FURCATA, Bechst. Kurz. Uebers. (1811) p. 132. sp. 10.

LOPHORINA SUPERBA, Vieill. Gal. Ois. vol. i. (1825) p. 149, pl. xcviii.—Less. Trait. Ornith. (1831) p. 337.—Bon. Consp. Gen. Av. (1850) p. 414.—Gray, List Gen. Birds (1855), p. 65.—Wall. Proc. Zool. Soc. (1862) p. 100.—Id. Ibis, (1861) p. 287.—Shaw, Gen. Zool. (1826) vol. xiv. p. 76.—Less. Ois. Parad. (1835) Syn. p. 12, Hist. Nat. p. 179, pls. 13 & 14.

LOPHORINA ATRA, Wall. Malay Archip. vol. ii. p. 249.

HAB. New Guinea.

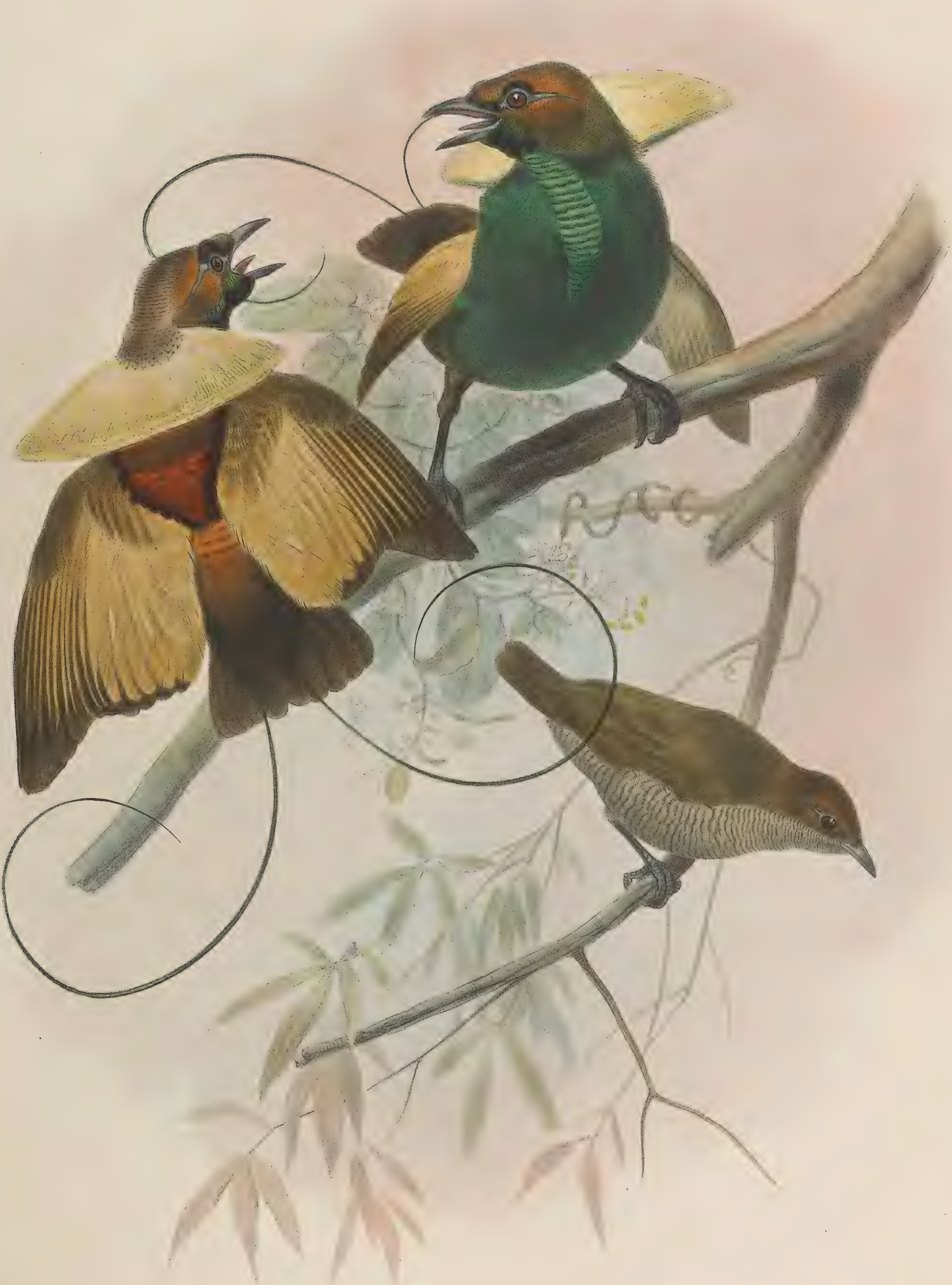
THE so-called "Black Birds of Paradise," although few in number, are possessed of the most extraordinary arrangement, developement, and brilliancy of plumage of all the members of this Family; and chief among them we may deem the bird now under consideration. The breast-shield, which of itself is a peculiar feature, met with, however, in other species of Paradiseidæ, is in the Superb Bird of Paradise counterbalanced by a greatly elongated suboccipital crest, or mantle, which, when raised, constitutes a most conspicuous ornament, and strikes the beholder with amazement at the never ending resources of creative power.

"This wonderful little bird," says Mr. Wallace, "inhabits the interior of the northern peninsula of New Guinea only. Neither I nor Mr. Allen could hear any thing of it in any of the islands or any part of the coast. It is true that it was obtained from the coast-natives by Lesson; but when at Sorong in 1861, Mr. Allen learnt that it is only found three days' journey in the interior. Owing to these 'Black Birds of Paradise,' as they are called, not being so much valued as articles of merchandise, they now seem to be rarely preserved by the natives; and it thus happened that during several years spent on the coasts of New Guinea and in the Moluccas I was never able to obtain a skin. We are therefore quite ignorant of the habits of this bird, and also of its female, though the latter is, no doubt, as plain and inconspicuous as in all the other species of this family."

Both sexes of this species were procured by M. von Rosenberg, when among the mountains of the interior of New Guinea, and perfect skins sent to the Leyden Museum. The female so closely resembles that of *Paradisea sexpennis* that, were the males unknown, any one might be excused who should regard them as only races of the same species; for the chief difference is the size, the present being the smaller of the two. That it was the true female of the *L. atra* cannot be doubted, as beautiful specimens of the male were also obtained by M. von Rosenberg at the same time, and now adorn the galleries of the Leyden Museum. A pair of these wonderful birds were most kindly lent to me by Prof. Schlegel, who with his characteristic liberality, permitted me to bring them to London, in order that their portraits might be included in this work. The accompanying life-like representation by Mr. Wolf is the result of this desire to advance the interest of science, so frequently evinced by Prof. Schlegel in his acts.

Male.—Top and back of head dark metallic green, a line of bright purple beneath the green on each feather; feathers of the forehead extending over the nostrils in upright tufts on either side. A mantle of lengthened feathers springing from the nape and sides of neck velvety black, with olive-green and purple reflections. Back and rump velvety black, with purple reflections. Secondaries black, bright purple in certain lights, primaries purplish brown. Two central tail-feathers velvet in texture, black, with blue and purple gloss, rest of feathers purplish black. Sides of head with bright purple gloss, chin and throat black, with olive-green reflections; lower part of neck in front bright purple. Upper part of breast covered by a shield, elevated at pleasure, of scaly feathers much elongated on each side, bright metallic blue-green, changing into purple in some lights. Rest of underparts purplish black. Bill, feet, and tarsi jet-black.

Female.—Top and sides of head brownish black, over the eye a short narrow white line, each feather tipped with black. Upper parts reddish brown, darkest near the lower part of neck. Secondaries dark brown, edges of webs rufous. Primaries blackish brown, edged with rufous. Chin, throat, and entire underparts white, barred with brownish black minutely on the throat, broader and more distinct on breast and abdomen. Under tail-coverts rufous, tipped with white and barred with brown. Tail brownish black, edges of the webs lighter brown. Bill, feet, and tarsi jet-black.



J Wolf, & J. Smit. del. et lith.

M&N Hanhart imp

DIPHYLLODES SPECIOSA.

DIPHYLLODES SPECIOSA.

MAGNIFICENT BIRD OF PARADISE.

PARADISEA SPECIOSA, Bodd. Tabl. Plan. Enlum. D'Aub. (1783).

PARADISEA MAGNIFICA, Gmel. Syst. Nat. vol. i. (1788) p. 401. sp. 4.—Lath. Ind. Orn. vol. ii. (1790) p. 194.—Shaw, Gen. Zool. vol. vii. (1809) pt. 2, p. 492, pl. 62; vol. xiv. (1826) p. 76.—Less. Trait. Ornith. (1831) p. 338.—Wagl. Syst. Av. pt. i. (1827) sp. 4.—Wall. Proc. Zool. Soc. (1862) p. 160.—Bechst. Kurze Uebers. (1811) p. 132. sp. 5.—Cuv. Règn. Anim. vol. i. (1829) p. 427.

CRESTED PARADISE-BIRD, Lath. Gen. Hist. vol. iii. (1822) p. 190. sp. 7.

LE MAGNIFIQUE, Vieill. Ois. Dor. vol. ii. (1802) p. 15, pl. 4.

LE MANUCODE À BOUQUETS, Buff. Plan. Enlum. vol. iii. (1774) p. 194, t. 631.—Briss. Hist. des Ois. vol. iii. (1775) p. 166.—Levaill. Hist. Nat. des. Ois. Parad. vol. i. (1806) pls. 9, 10, & 11.

L'OISEAU DE PARADIS SURNOMMÉ LE MAGNIFIQUE, Sonn. Voy. Nouv. Guin. (1776) p. 163, pl. 98.

MAGNIFICENT PARADISE-BIRD, Lath. Gen. Syn. vol. ii. (1782) p. 477, pl. xix.—Id. Gen. Hist. Birds, vol. iii. (1822) p. 189, pl. xlv.

PARADISEA CIRRHATA, Lath. Ind. Ornith. (1790) p. 195. sp. 4.—Bechst. Kurze Uebers. (1811) p. 132. sp. 6.

DIPHYLLODES SELEUCIDES, Less. Ois. Parad. (1835) Syn. p. 16. sp. 7.—Hist. Nat. p. 191, pls. 19 & 20.

DIPHYLLODES MAGNIFICA, Gray, List Gen. Birds (1855), p. 65.—Wall. Ibis, (1861) p. 287.—Bon. Consp. Gen. Av. p. 413.

PARADISEA SPECIOSA, Gray, Gen. Birds, vol. ii. p. 323. sp. 4.—Id. Hand-list Birds, pt. ii. (1870) p. 16. no. 6251.—Schleg. Mus. Pays-Bas (1867), p. 86.—Id. Journ. für Ornith. (1861) p. 386.—Id. Tijdsch. Dierk. pts. iv. & v. pp. 17, 49.

DIPHYLLODES SPECIOSA, Wall. Malay Archip. vol. ii. p. 247.

DIPHYLLODES MAGNIFICA, Von Rosenb. Journ. für Ornith. (1864) p. 130.

Hab. New Guinea, Salwatty, Waigiou, Mysol (Wallace); Joby (Schlegel).

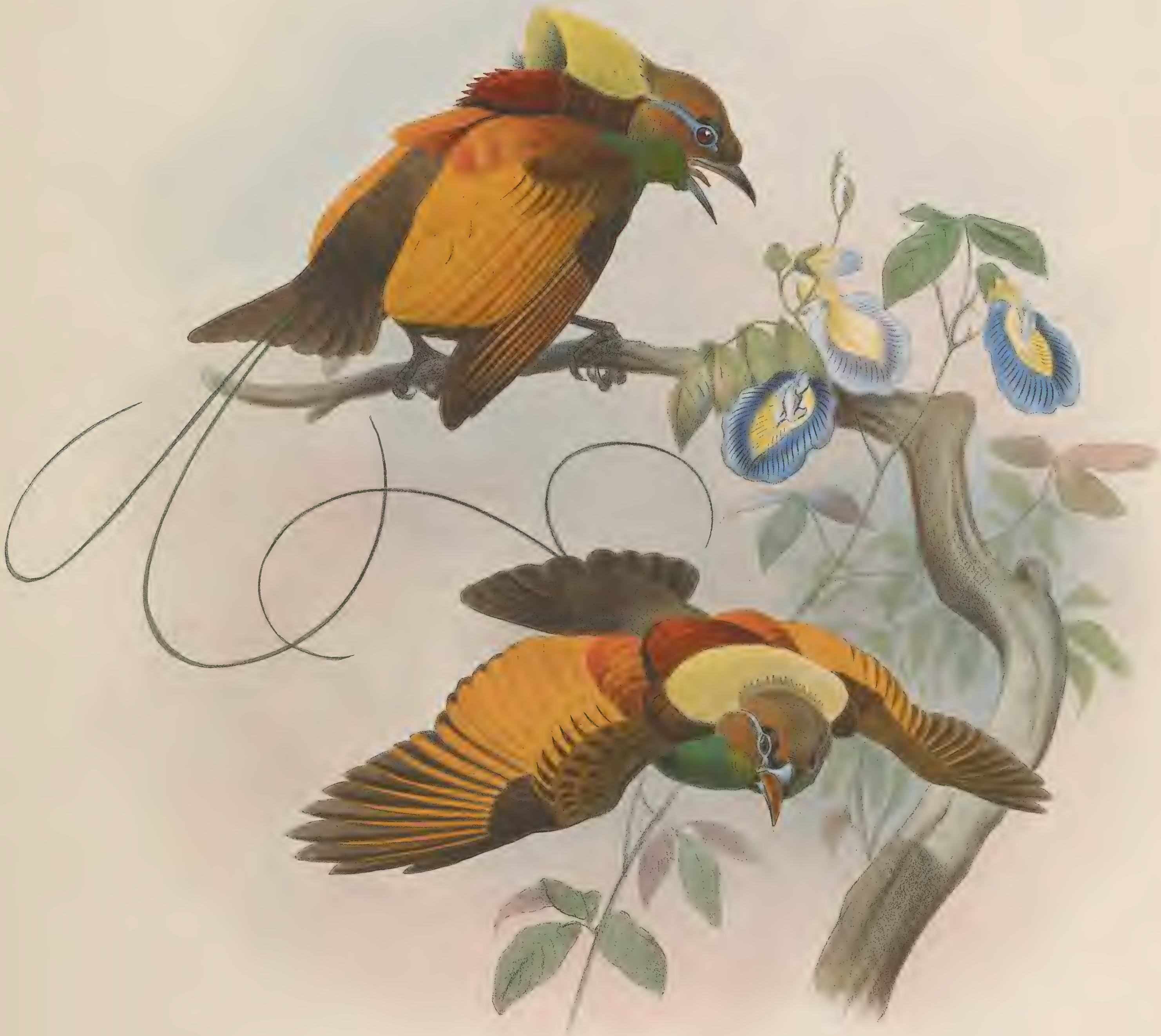
This magnificent Bird of Paradise belongs to a group of which at present but two species are known, viz. the one now under consideration, and its relative the beautiful little *D. respublica*. They are distinguished by yellow mantles springing from the back part of the neck, and also by two singular wire-like feathers starting from the lower part of the rump, crossing each other just beyond the end of the tail, and then curving outwards into a large nearly complete circle. Mr. Wallace did not obtain this species; but through the exertions of the Dutch collectors beautiful specimens have been transmitted to Europe by Mr. Bernstein, who was sent out to the Indian archipelago by the officers of the Leyden Museum. Mr. Wallace says, "from what we know of the allied species, we may be sure that the greatly developed plumage of this bird is erected and displayed in some remarkable manner. The mass of feathers on the under surface are probably expanded into a hemisphere, while the beautiful yellow mantle is no doubt elevated so as to give the bird a very different appearance from that which it presents in the dried and flattened skins of the natives, through which alone it is at present known. The feet appear to be dark blue." Although the male of this beautiful species possesses such a magnificent dress, the female is a most unpretending-looking little bird, clothed in a suit of modest brown, crossed on the underparts with a darker brown. She is not unlike in appearance the female of the *Cicinnurus regius*, being a little larger, however, in size. It is a singular fact that though, in many species of the birds of this family, the males are as widely different in the colours and style of their plumage as can be conceived, yet the females differ chiefly in size, and would never suggest the idea that they would produce male offspring possessing, as regards their feathers, no character in common.

Although this beautiful species has been known to ornithologists for nearly a century, yet up to the present time nothing has been related of its habits and economy, and its nest and eggs have never yet been met with by any collector who has obtained the bird in its native home.

Male.—Top of head rich brown, with a light greenish gloss; behind the eyes rufous, lighter than the crown. Feathers of the forehead, extending over the bill and covering the nostrils, deep rich chestnut, with a few metallic-green feathers interspersed amid the others; over and in front of the eyes a dark green metallic spot; ear-coverts and cheeks chestnut: a light straw-coloured mantle springs from the upper part of the neck just below the occiput, and covers the upper part of the back; this can be raised or lowered at the pleasure of the bird: at the base of this mantle are a few short greyish feathers lying between it and the head: middle of the back very deep iridescent red, edges of the feathers blackish; greater wing-coverts composed of lengthened split light-buff feathers covering the secondaries; these last are light buff on the outer webs of the upper ones, dark brown on the inner, the buff becoming less and less as the secondaries approach the primaries, until it is restricted to a mere line on the edge. Primaries dark brown, edged with buff. Rump yellowish brown, with a sprinkling of orange-yellow, most conspicuous on the upper part. Feathers of the chin project forwards, reaching halfway the length of the bill, of so deep a chestnut as to appear in most lights black. Between the breast-feathers and the mantle, covering the shoulders, and extending one third the length of the wing is a mass of light-brown feathers, the upper ones tipped with blackish brown, the lower with rufous and black. Throat, breast, and abdomen beautiful brilliant green, with a broad line of iridescent feathers extending halfway down the centre from the chin. Lower part of abdomen, thighs, and under tail-coverts brownish black. Tail short, dark brown; from the centre, above the median feathers, spring two shafts with only one very narrow web, which cross each other near the place of starting, and project far beyond the tail, and return towards the body in one large graceful curve. The web is brilliant green, changing to rich purple in certain lights. The bill is black at the base, horn-colour towards the tip. Behind the eye is a narrow strip of bare skin. Feet and tarsi apparently dark blue.

Female.—Head and entire upper parts rufous brown; edges of the secondaries yellowish brown; primaries dark brown. Throat whitish, covered with small brownish spots; entire underparts brownish white, crossed with narrow lines of blackish brown; these lines broadest on the flanks. Under tail-coverts rufous brown, crossed with dark brown lines. Tail rufous brown like the back. Bill bluish black, deepest at the base and on the cutting-edges of both mandibles. Tarsi and feet black, or very dark blue.

For the loan of a specimen of the female of this species, to be figured in the Plate, I am indebted to my friend M. Jules P. Verreaux, to whom I take this opportunity of expressing my thanks.



J. Wolf. & J Smit del et lith
M & N Hanhart imp

DIPHYLLODES CHRYSOPTERA.

DIPHYLLODES SPECIOSA, VAR. CHRYSOPTERA.

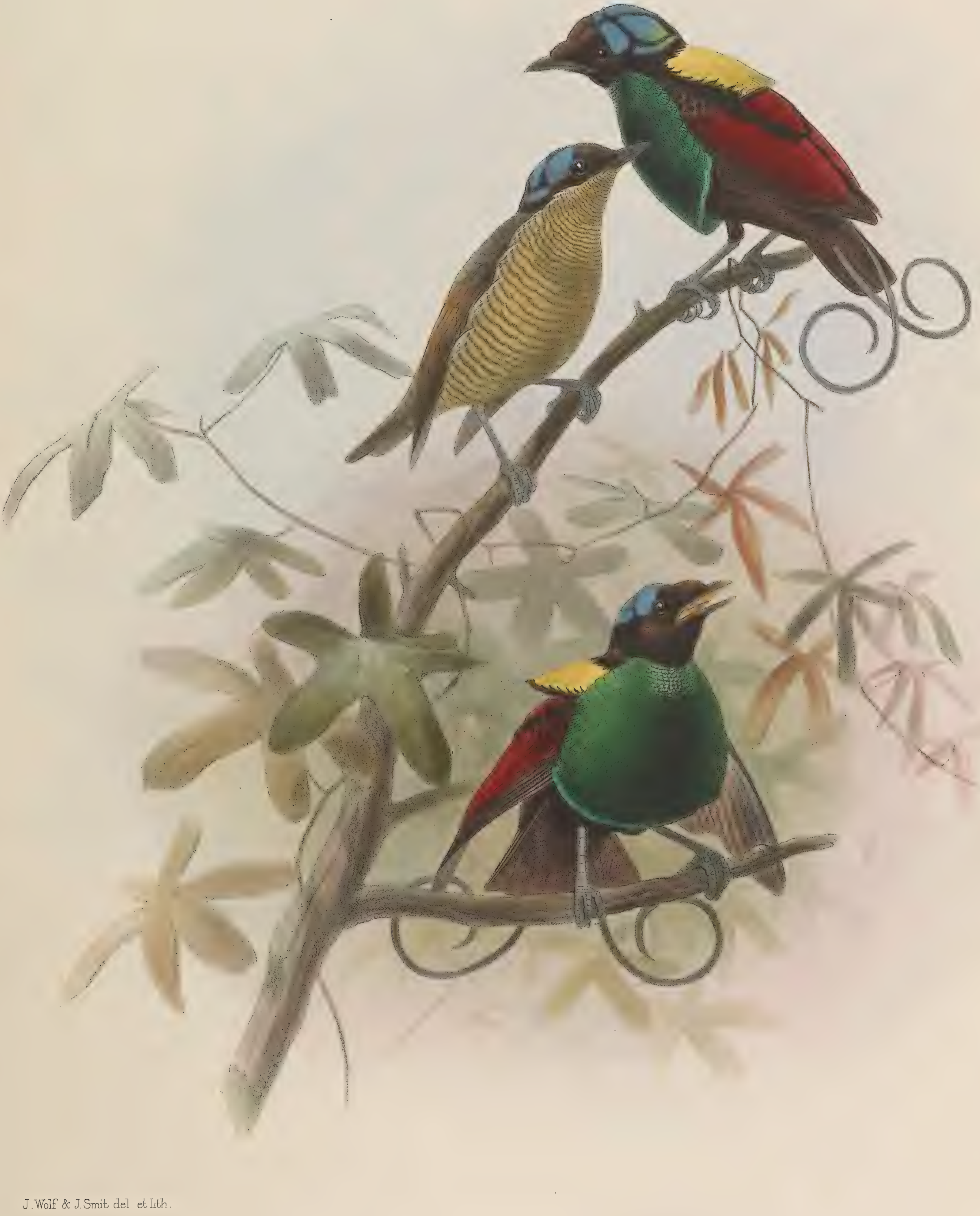
GOLDEN-WINGED BIRD OF PARADISE.

DIPHYLLODES CHRYSOPTERA, Gould, MS.

HAB. ?

Two specimens of this variety of *D. speciosa* are contained in Mr. Gould's collection, and, being considered by him a distinct species, were named as above, although I am not aware that any description of them was published. The only difference perceptible between these specimens and those of the well-known species with which I have compared them, is that the wings are of a golden colour. In size they are equal. I do not consider that there are sufficient grounds shown for naturalists to regard these birds as belonging to a species distinct from the *D. speciosa*; and I have given a representation of them merely to exhibit a form of variation to which, perhaps, *D. speciosa* is subject in certain localities. The exact place from which they came is not known. I am indebted to Mr. Gould for the loan of his specimen to be figured for this work.

The bird may be described as the same as *D. speciosa* with yellow secondaries.



J. Wolf & J. Smit del et lith.

M&N. Hanhart imp.

DIPHYLLODES RESPUBLICA

DIPHYLLODES RESPUBLICA.

WILSON'S BIRD OF PARADISE.

LOPHORINA RESPUBLICA, Bonap. Compt. Rend. (1850) p. 131.—Id. Consp. Gen. Av. p. 413.

PARADISEA WILSONI, Cass. Journ. Acad. Nat. Scien. Phil. (1850) vol. ii. pl. 15.—Gray, Proc. Zool. Soc. (1861) p. 436.—Sclat. Proc. Zool. Soc. (1865) p. 465.—Schleg. Mus. Pays-Bas (1867), p. 87.—Id. Tijdsch. Dierk. part ii. p. 249.

SCHLEGELIA CALVA, Bernst. Nederl. Tijds. Dierk. (1864) part. i. pl. 7.

DIPHYLLODES RESPUBLICA, Sclat. Proc. Zool. Soc. (1857) p. 6.—Von Rosenb. Journ. für Ornith. (1864) p. 130.

DIPHYLLODES WILSONI, Wall. Proc. Zool. Soc. (1862) p. 160.—Newton, Ibis (1865), p. 343.—Wall. Malay Archip. vol. ii. p. 248.

HAB. Waigiou and Batanta (SCHLEGEL).

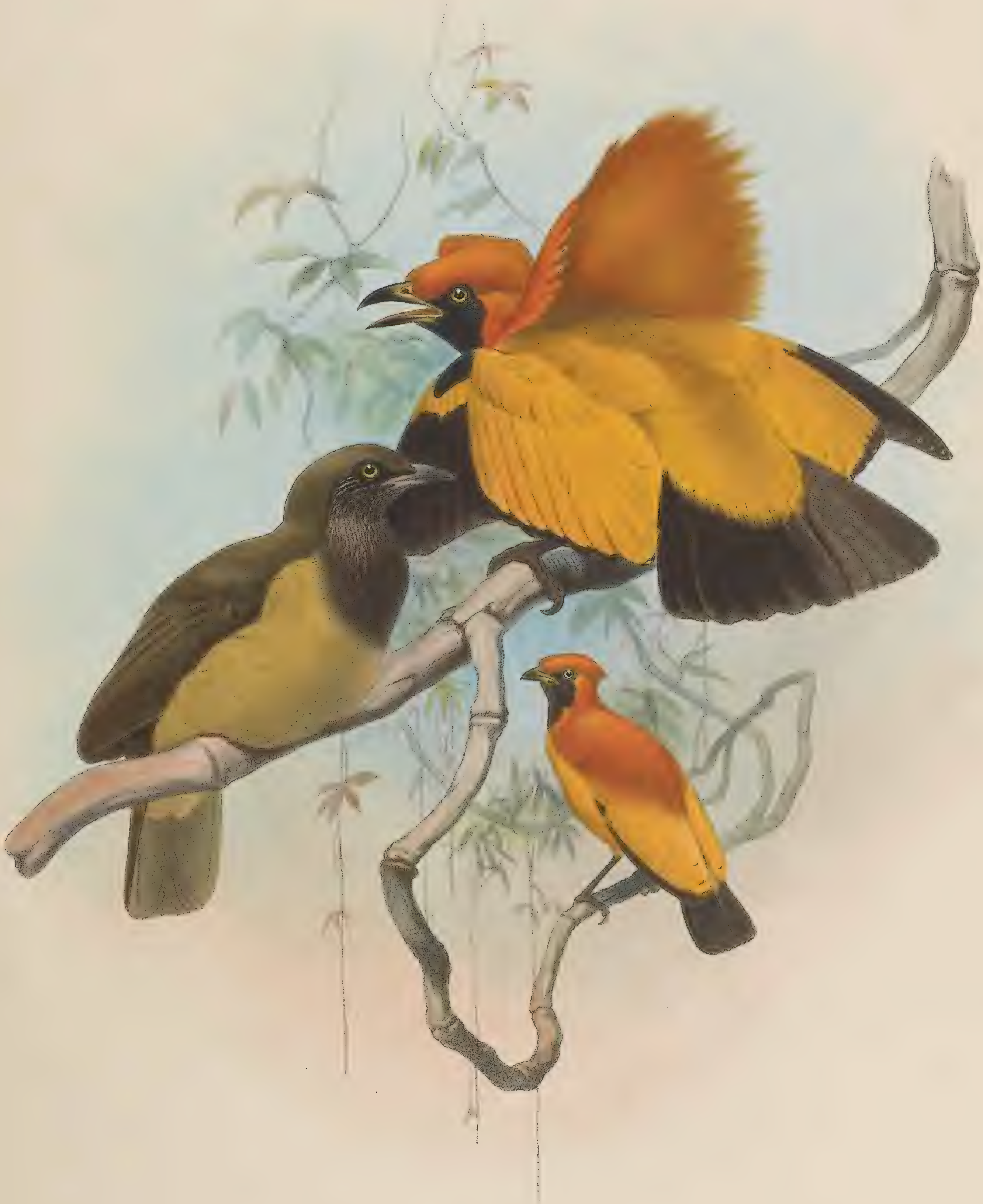
THIS species was first described by Bonaparte in February 1850, who gave to it the name of *respublica*, dedicating it to the Great Republic on the western shores of the Atlantic, thus antedating Mr. Cassin, who also described it in August of the same year from a rather imperfect specimen in the Academy of Sciences of Philadelphia, calling it after Mr. Edward Wilson, who had done so much towards rendering the ornithological collection in the Academy one of the finest in existence. For a long time it was one of the rarest of this family, and its habitat supposed to be New Guinea; but Bernstein obtained many specimens in the islands of Waigiou and Batanta, which were sent to Leyden, and lately others have arrived in London from the same localities. I am not aware that it has yet been found upon the mainland of New Guinea, where, however, it is not unlikely to occur. Although nearest allied to the *D. speciosa*, the present species has one remarkable difference in its nearly bare head, crossed by narrow lines of short velvety feathers, both sexes being alike in this peculiarity. The bare portion is deep blue. It also varies in having the second mantle behind and beneath the straw one deep red. Bernstein, who probably has seen more of these beautiful creatures in the flesh than any other European, speaks of it as follows in the Tijdschrift voor de Dierkunde:—

"This bird is distinguished from the other known species of the family of the Paradise-birds by having a great part of the top of the head and occiput naked. I believe that I am authorized to regard it as representing a new genus in the science. The genus with which it is connected by the presence of two middle rectrices lengthened and curved in spiral, is the *Diphyllodes* of Lesson, by the side of which it should be placed. This bird is found in the island of Waigiou; but it there inhabits the districts situated more or less near the interior, and is there much more rare than the *Paradisea rubra*, which is met with quite through the neighbouring island of Ghemien."

The genus proposed by Bernstein was *Schlegelia*, after Professor Schlegel, of Leyden. I have not adopted it in this work, as it does not appear to me that the partially bare head, in the absence of any other distinctive characters, is sufficient to constitute a generic separation from *D. speciosa*, which in many ways the present species resembles.

Male.—Head bare, blue shading off to green along the edges of the exposed skin, and crossed twice by narrow lines of short brownish feathers. A nuchal yellow crest, similar to that of *D. speciosa*, springs from the nape of the neck. Mantle crimson, edges of the outer feathers bordered with black. Back brown as are also the tail-feathers. Wings brown, primaries, secondaries, and tertials edged with crimson, the two latter quite broadly. Underparts rich green, appearing black on the chin; lower part of abdomen brownish black. On the neck and breast appear spots of a more brilliant green than the general colour, of a metallic lustre. Two feathers spring from the base of the tail above, project beyond it, and curve back towards the body in circles about an inch in diameter, steel-blue in colour. Bill black. Feet and tarsi leaden blue.

Female.—Head bare as in the male, of the same colour, and crossed by similar brown lines of feathers. Upper parts and tail rufous brown. Underparts yellowish white, barred narrowly with blackish brown. Bill, feet, and tarsi of the same colour as in the male.



J. Wolf & J. Smit del et lith

M & N Hanhart imp

XANTHOMELUS AUREUS.

XANTHOMELUS AUREUS.

GOLDEN BIRD OF PARADISE.

GOLDEN BIRD OF PARADISE, Edw. Birds, vol. iii. (1760) p. 112.—Lath. Gen. Syn. vol. ii. (1782) p. 483.

ORIOLUS AUREUS, Linn. Syst. Nat. (1766) vol. i. p. 163. sp. 19.—Gray, Hand-l. Birds, pt. i. (1869) p. 293. sp. 4332.—Vieill. Ency. Méth. (1823) t. ii. p. 695. no. 5.

LE PARADIS ORANGÉ, Vieill. Ois. dor. (1802) vol. ii. p. 26, pls. 11 & 12.

PARADISEA AUREA, Lath. Ind. Orn. (1790) vol. ii. p. 195. sp. 11.—Bechst. Kurz. Uebers. (1811) p. 133. sp. 14.—Schleg. Journ. für Ornith. (1861) p. 386.

PARADISEA AURANTIA, Shaw, Gen. Zool. vol. vii. pt. 1–2 (1809), p. 499, pl. 68.

LE LORIOT DE PARADIS, Levaill. Hist. Nat. des Ois. Parad. (1806) vol. i. pls. 18, 19.

LOPHORINA AURANTIA, Shaw, Gen. Zool. (1826) vol. xiv. p. 76.

XANTHOMELUS AUREUS, Bon. Ann. d. Sc. Nat. Sér. iv. Zool. (1854) p. 122.—Id. Compt. Rend. xxxviii. (1854) p. 538.—Elliot, Ibis, (1872) p. 112.

SERICULUS AURANTIACUS, Less. Trait. Ornith. (1831) p. 339.—Id. Ois. Parad. (1835) Syn. p. 20. sp. 9, & Hist. Nat. p. 201, pls. 25, 25 bis, 25 ter.

SERICULUS AUREUS, Gray, Proc. Zool. Soc. (1861) p. 435.—Schleg. Mus. Pays-Bas (1867), p. 98.—Wall. Proc. Zool. Soc. (1862) p. 160.—Id. Ibis, (1861) p. 287.—Id. Malay Archip. vol. ii. pp. 257, 258.—Bon. Consp. Av. (1850) p. 349. sp. 1.—Gray, Gen. Birds (1841), vol. i.. p. 232.

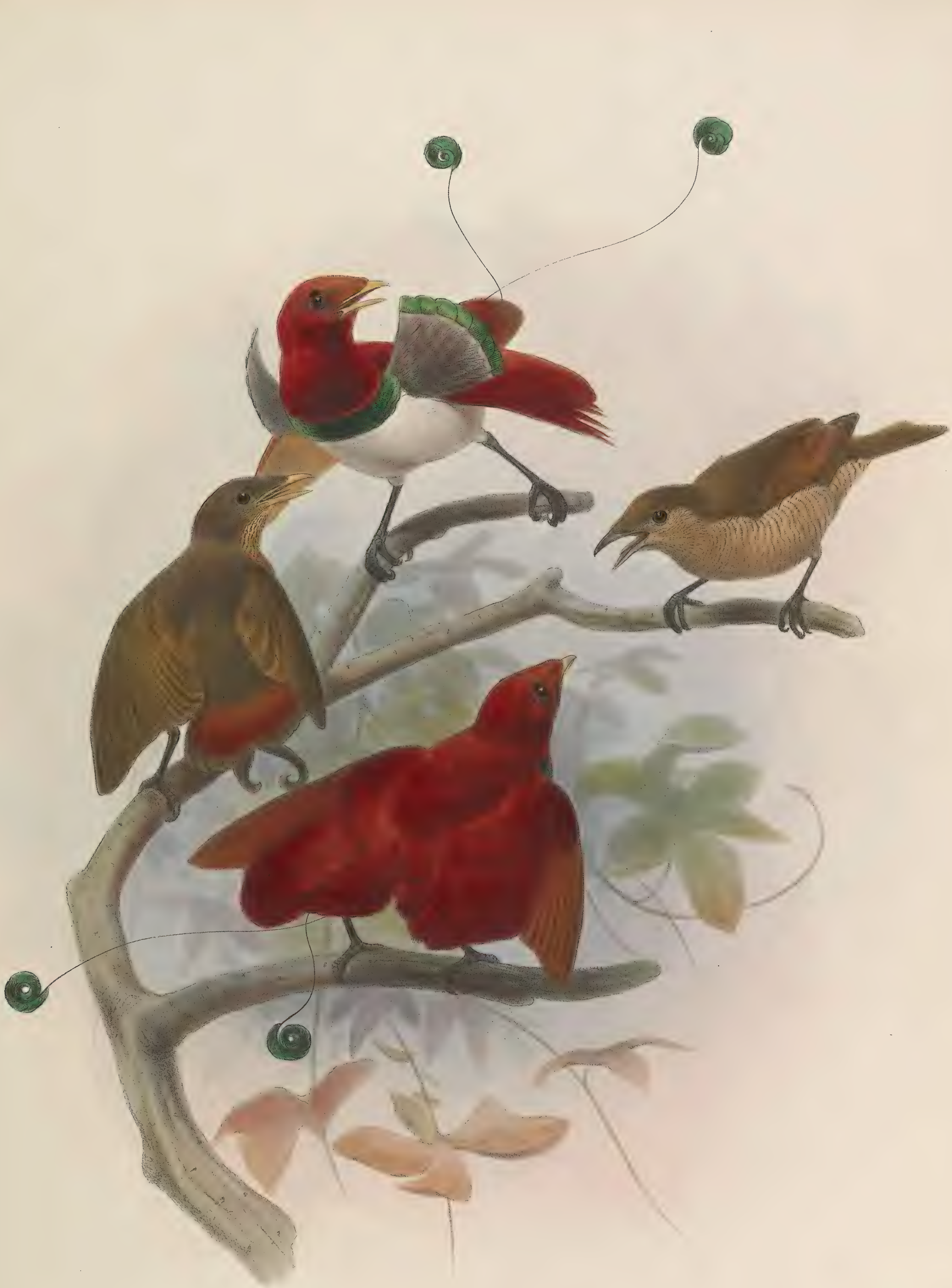
HAB. Salwatty, New Guinea (WALLACE).

THIS singular and beautiful bird reminds one by the colour of its plumage of the family of Orioles, and has received the trivial name of the Paradise Oriole from some naturalists on this account. But its proper position is with the Paradiseidæ; and although it has been generally classed with the Regent bird of Australia in the genus *Sericulus*, yet I have considered it more appropriate, from the shape of the bill and general character of the plumage, such as a long erectile mantle and thick small crest, to place it in a distinct genus by itself, and have therefore adopted Bonaparte's term of *Xanthomelus*.

It is an exceedingly rare bird, never having been received in a perfect state, the natives either cutting off the legs or pulling out the primary quills; and it is generally necessary to have more than one specimen in order to obtain all the various portions of the bird. The female, as is the case with those of many species of Paradise-birds, is even more rarely seen than the male, probably either because her sombre plumage renders her more difficult to be detected in the thick forests where they live, or else, being less desirable as an article of trade when bright feathers only are sought after, the natives neglect her and search after the more gaily attired male. Nothing whatever is known of the economy or habits of this handsome species, our acquaintance with it being confined to the few skins in various collections. Mr. Wallace did not see it himself. He says, "this beautiful bird inhabits the mainland of New Guinea, and is also found in Salwatty, but is so rare that I was only able to obtain one imperfect native skin; and nothing whatever is known of its habits." Doubtless this species has the power to elevate and spread the mantle with which it is adorned, somewhat in the manner exhibited in the acompanying plate; and beautiful indeed must it appear when thus displaying itself before its admiring mate, the quivering plumes falling around it like a shower of gold.

Male.—Head and lengthened plumes of the back, which cover the upper part of the body like a mantle, deep rich orange. Feathers of the throat extending in a point on to the breast; primaries and tail jet-black. All the rest of the plumage deep rich yellow; the tips of the secondaries black. Bill horn-colour at base, black for the remaining portion.

Female.—General plumage uniform olive-colour; the throat blackish brown, spotted with olive. The bill and feet brown.



J. Wolf & J. Smit del. et lith.

M & N. Hanhart imp.

CICINNURUS REGIUS

CICINNURUS REGIUS.

KING BIRD OF PARADISE.

THE KING BIRD OF PARADISE, Edw. Birds, vol. iii. (1750) pl. 111.

PARADISEA REGIA, Linn. Syst. Nat. (1766) vol. i. p. 166.—Gmel. Syst. Nat. (1788) vol. i. part i. p. 400.—Lath. Ind. Ornith. vol. ii. (1790) p. 194.—Shaw, Gen. Zool. vol. vii. part ii. (1809) p. 497, pl. 67.—Bechst. Kurze Uebers. (1811) p. 132. sp. 4.—Less. Voy. Coquille (1826), Atlas, pl. 26, (text) vol. i. p. 688.—Cuv. Règ. Anim. (1829) vol. i. p. 427.—Wagl. Syst. Av. (1826) sp. 7.—Gray, Proc. Zool. Soc. (1858) p. 181. sp. 74, (1861) p. 436.—Id. Hand-list of Birds, part ii. (1870) p. 16. no. 6252.—Schleg. Mus. Pays-Bas (1867), p. 88.—Wall. Proc. Zool. Soc. (1862) p. 160.—Id. Ibis, (1859) p. 111.—Gray, Gen. of Birds, vol. ii. p. 323. sp. 5.—Schleg. Handl. Dierk. t. i. p. 332, (Atlas) pl. iv. fig. 46.—Wall. Malay Archip. vol. ii. pp. 131 & 248.—Schleg. Journ. für Ornith. (1861) p. 385.—Schleg. Tijdsch. Dierk. parts iv. & v. pp. 17 & 49.

LE MANUCODE, Buff. Plan. Enlum. (1774) p. 192, t. 496.—Briss. Hist. des Ois. vol. iii. (1775) p. 163, pl. xiii.—Levaill. Hist. Nat. des Ois. Parad. (1806) vol. i. pls. 7 & 8.—Vieill. Ois. Dor. vol. ii. (1802) pl. 5, p. 16.

LE PETIT OISEAU DE PARADIS, Briss. Ornith. vol. ii. p. 136, pl. xiii. (1760).

LE ROI DES OISEAUX DE PARADIS, Sonn. Voy. Nouv. Guin. (1776) vol. i. p. 156, pl. 95.

KING PARADISE-BIRD, Lath. Gen. Syn. vol. ii. (1782) p. 475.—Id. Gen. Hist. Birds, vol. iii. (1822) p. 188. sp. 5.

CICINNURUS SPINTURNIX, Less. Ois. Parad. (1835) Syn. p. 14. sp. 6.—Id. Hist. Nat. p. 182, pls. 16, 17, & 18.

CICINNURUS REGIUS, Vieill. Gal. des Ois. vol. i. (1825) p. 146, pl. xcvi.—Less. Traité d'Orn. (1831) p. 338.—Wall. Ibis, (1861) p. 287.—Shaw, Gen. Zool. (1826) vol. xiv. p. 77.—Von Rosenb. Journ. für Ornith. (1864) p. 130.

CICINNURUS REGIA, Bonap. Consp. Gen. Av. (1851) p. 413. sp. 1.—Gray, List Gen. Birds (1855), p. 65.

Burong rajah, Malay. *Goby-goby*, Natives of Aru Islands.

Hab. New Guinea, Aru Islands, Mysol (Wallace); islands of Sorong, Salwattie, Wokam, and Wonoumbai, of the Aru Group (Rosenberg); Jobie (Schlegel).

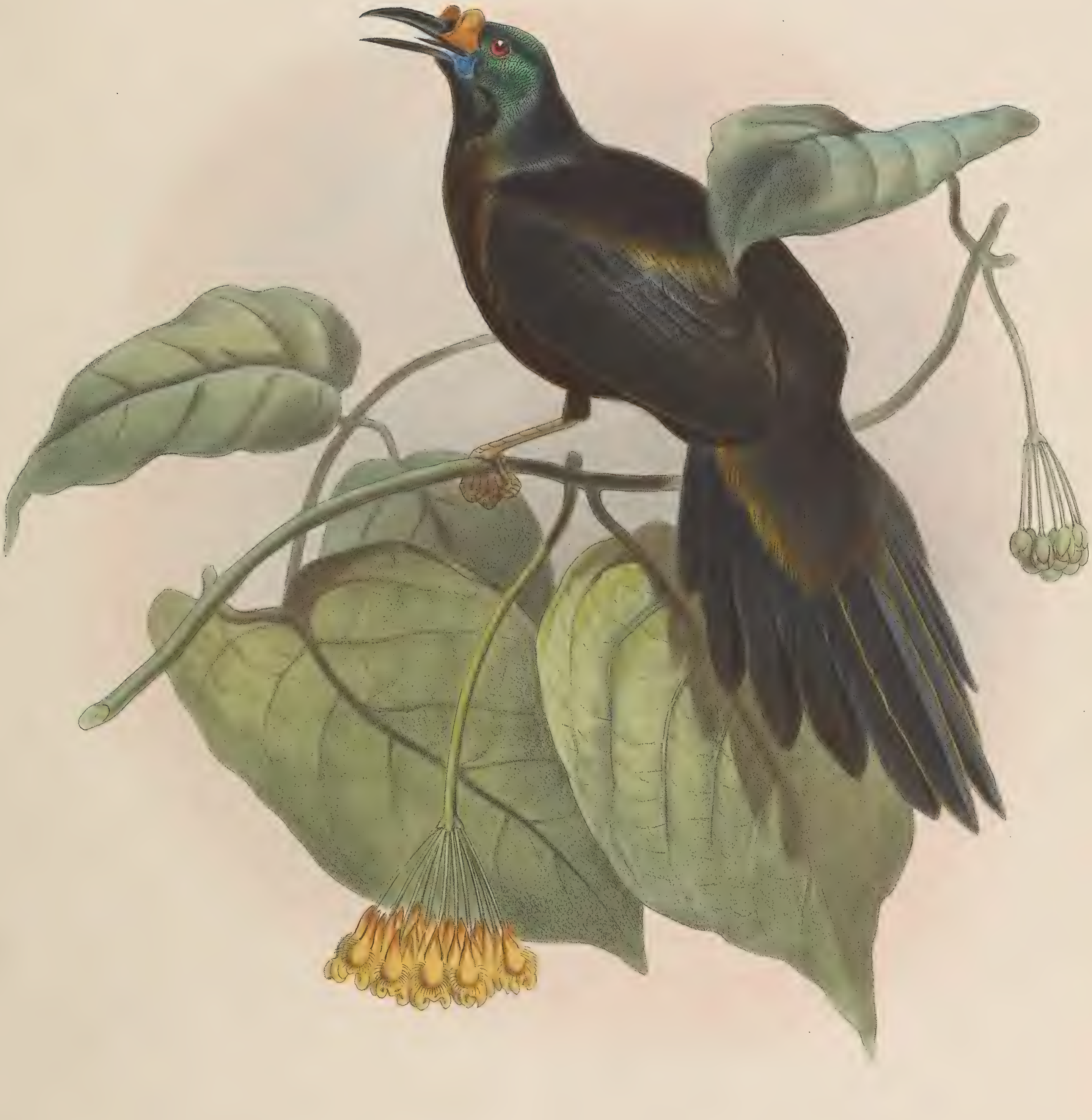
Among all the members of the Paradiseidæ, none excels the present little gem in the beauty and brilliancy of its plumage. Although it has always been a great desideratum in collections, both public and private, and all travellers who have visited the islands where it is found have tried in every way to procure it, still we know little, if any thing, of its economy or habits. Mr. Wallace first met with it in the Aru Islands. He says, "the first two or three days of our stay here were very wet, and I obtained but few insects or birds; but at length when I was beginning to despair, my boy Baderoon returned one day with a specimen which repaid me for months of delay and expectation. It was a small bird, a little less than than the Thrush. Merely in arrangement of colours and texture of plumage, this little bird was a gem of the first water; yet these comprised only half its strange beauty. Springing from each side of the breast, and ordinarily lying concealed under the wings, were little tufts of greyish feathers about two inches long, and each terminated by a broad band of intense emerald-green. These plumes can be raised at the will of the bird, and spread out into a pair of elegant fans when the wings are elevated. But this is not the only ornament. The two middle feathers of the tail are in the form of slender wires about five inches long, and which diverge in a beautiful curve. About half an inch of the end of this wire is webbed on the outer side only, and coloured of a fine metallic green; and being curled spirally inwards they form a pair of elegant glittering buttons, hanging five inches below the body, and at the same distance apart. These two ornaments, the breast-fans and the spiral-tipped tail-wires, are altogether unique, not occurring on any other species of the eight thousand different birds that are known to exist upon the earth, and, combined with the most exquisite beauty of plumage, render this one of the most perfectly lovely of the many lovely productions of nature. My transports of admiration and delight quite amused my Aru hosts, who saw nothing more in 'Burong raja' than we do in the Robin or Goldfinch. Thus one of my objects in coming to the far East was accomplished. I had obtained a specimen of the King Bird of Paradise, which had been described by Linnæus from skins preserved in a mutilated state by the natives. I knew how few Europeans had ever beheld the perfect little organism I now gazed upon, and how very imperfectly it was still known in Europe. The emotions excited in the mind of a naturalist who has long desired to see the actual thing which he has hitherto known only by description, drawing, or badly preserved external covering, especially when that thing is of surpassing rarity and beauty, require the poetic faculty fully to express them. After the first King-bird was obtained, I went with my men into the forest; and we were not not only rewarded with another in equally perfect plumage, but I was enabled to see a little of the habits of both it and the larger species. It frequents the lower trees of the less dense forests, and is very active, flying strongly with a whirring sound, and constantly hopping or flying from branch to branch. It eats hard stone-bearing fruits as large as a gooseberry, and often flutters its wings after the manner of the South-American Manakins, at which times it elevates and expands the beautiful fans with which its breast is adorned. The natives of Aru call it 'Goby-goby.' It is tolerably plentiful in the Aru Islands, which led to its being brought to Europe at an early period along with *Paradisea apoda*. It also occurs in the Island of Mysol, and in every part of New Guinea which has been visited by naturalists."

Lesson says, "we met with the Manucode twice during our hunts, and we killed the male and the female. This species appears to be monogamous, where perhaps it is isolated in pairs at the period of breeding. In the wood this bird has no brilliancy. Its plumage of fiery red does not betray it, and the female has only sombre colours. It loves to keep in the teak trees, whose large leaves shelter it, and the small fruits of which compose its food. The iris is brown, and the feet of a very delicate azure blue. The Papous call it '*saya*.'"

Male.—Head, throat, breast, wings, and entire upper parts brilliant deep fiery red, the texture of the feathers resembling spun glass. Feathers of the forehead extend over the bill for two thirds of its length, concealing the nostrils. Over each eye is a small dark green spot. The colour of the breast is somewhat darker than that of the upper parts, and its lower edge is a light golden red. Beneath the red of the breast is a band of beautiful iridescent green. Springing from each side of this band, beneath the wings, are a number of lengthened feathers, which the bird can spread out like a fan, dark grey in colour, tipped with most brilliant green; this last divided from the grey of the rest of the feather by a narrow line of buff. Rest of the underparts pure white. Underpart of tail-feathers grey, with purple reflections. Springing from the centre of the tail, near the rump, are two shafts projecting for about four inches beyond the tail, devoid of webs until near their tips, where a brilliant green outer web appears, which is curved round upon itself, forming a glittering button—one of the most extraordinary modes of ornamentation known among the feathered creatures. The bill of this little gem is yellow; the feet and tarsi blue.

Female.—Head and entire upper parts dark brown. Outer edges of secondaries reddish. Underparts reddish buff, crossed with broken bars of dark brown, darkest on the sides of the throat. Tail lighter than the back; edges of the feathers olive-brown. Bill light yellow; tip dark brown. Feet and tarsi bluish.

Young male.—Upper parts yellowish brown. Secondaries like those of the female, but the edges of outer webs and tips rich orange. Throat buff, striated with dark brown. Entire underparts rich uniform buff; flanks only barred with dark brown.



J. Wolf & J. Smit del et lith

M&N. Hanhart imp

PARADIGALLA CARUNCULATA

PARADIGALLA CARUNCULATA.

WATTLED BIRD OF PARADISE.

ASTRAPIA CARONCULATA, Eydoux et Souleyet, Voy. de la Bonite, p. 83 (1841) ; Atlas, pl. 4.

PARADIGALLA CARUNCULATA, Bon. Consp. Gen. Av. (1850) p. 414.—Gray, List Gen. Birds (1855), p. 65 : Less.

ASTRAPIA CARUNCULATA, Gray, Hand-l. Birds (1870), pt. ii. p. 17.—Id. Gen. of Birds, vol. ii. p. 326. sp. 2.—Schleg. Journ. für Ornith. (1861) p. 386.—Von Rosenb. Journ. für Ornith. (1864) p. 131.

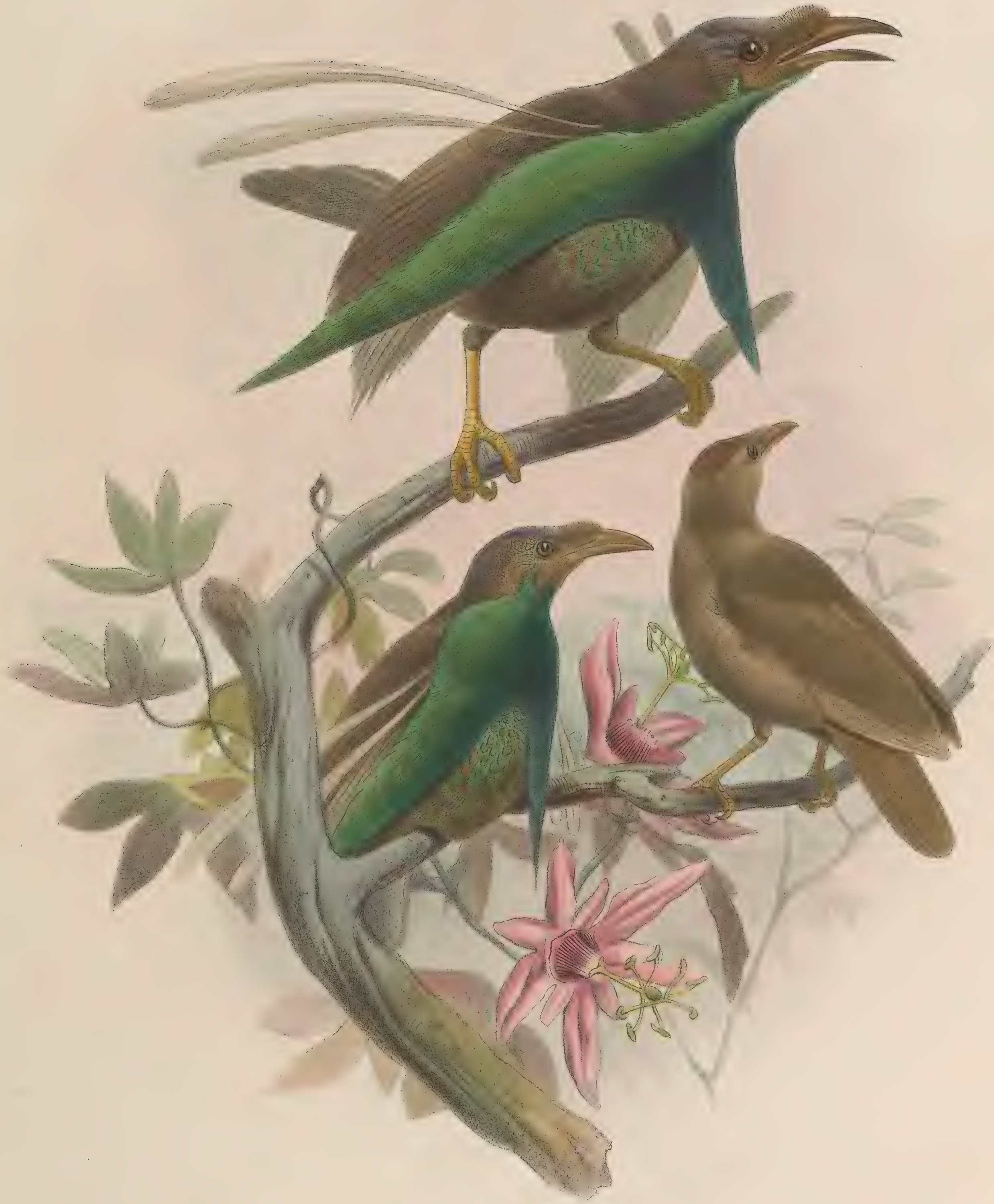
PARADIGALLA CARUNCULATA, Lesson, Ois. Parad. (1835) p. 242.—Id. Rev. Zool. (1840) p. 1.—Sclat. Proc. Zool. Soc. (1857) p. 6.—Wall. Proc. Zool. Soc. (1862) p. 160.—Wall. Malay Archip. vol. ii. p. 257.

Hab. New Guinea (Lesson).

This curious Bird of Paradise, apparently nearest allied to the magnificent *Astrapia nigra*, is believed to be an inhabitant of New Guinea, that strange land which contains so many species of this Family, and amid whose inaccessible fastnesses no doubt many more, rivalling in beauty and eccentric plumage any of those already known, are yet to be discovered. The present bird was first obtained by Eydoux and Souleyet during the voyage of the 'Bonite;' and all that is known of it is contained in the short extract given below, which I translate from their work upon the animals obtained during the cruise. So rare, however, is this bird, that I am only aware of two specimens at present contained in any museum, one of these being the type in the museum of Paris, and one contained in the equally fine collection belonging to the Academy of Sciences of Philadelphia.

MM. Eydoux and Souleyet state:—"The only Astrapia known, the type in fact, upon which Vieillot established this generic division, is that magnificent species from New Guinea, which Levaillant called 'Paradise-Pie,' Latham *Paradisea gularis*, and modern ornithologists who have adopted this division (Astrapia with the golden throat) *Astrapia gularis*. The one which we now publish will be the second known species of this genus. It is distinguished by the compressed wattles, of a triangular form, probably erectile—wattles that recall a little those of the White Plover (*Vanellus albicapillus*, Vieill.). They are placed at the side of the upper mandible, and are comprised between the opening of the mouth and the nasal fossæ, covering the lores and the cheeks; they adhere to the edges of the frontal bone, and extend on the sides of the forehead, above which they are elevated several millimetres; another wattle, much smaller and straighter, includes a large part of the lower mandible, and only presents a slight extension on the side; these two membranes, by their meeting near the commissure of the jaws, appear to be a continuation of each other. A compact plumage, of a beautiful changeable green, covers the top and sides of the head; the throat is ornamented with greenish black feathers, having the form of raquets, diverging and overlapping for three or four millimetres the branches of the lower mandible; above, the body is a beautiful velvety black, sprinkled with fine lines of a golden green, which only appear in certain lights; beneath, it is black shaded with a deep brown. The wings (to judge by only two primaries which remain upon one of the individuals which serve for our description) and the tail (of which the feathers are tapering and rounded) are of the same colour as the back above, and of a rich brownish black beneath. The bill is black. We cannot say any thing about the tarsi, which are wanting in the specimen we describe, as is the case with most of those of the Birds of Paradise; those that we have figured have been imagined or, ordinarily, taken from some allied species. We know nothing of this bird, except its habitat; it comes from New Guinea, to which the genus *Astrapia* appears up to the present time to be limited.

"It would be difficult to give the exact measurements of this species; for of the two individuals from which we have taken our description, one is entirely without the tail, and that of the other is in process of development after moulting. At the same time the new feathers, which present a shaft provided at the base with disordered beards, show that the tail of *Astrapia carunculata*, almost entirely developed in our specimen, will be longer than that of the Calybée, which is from ten to twenty millimetres only; so that this bird will be nearly 36–37 centimetres."



J.Wolf & J.Smit del.et lith.

M&N.Hanhart imp

SEMIOPTERA WALLACII.

SEMIOPTERA WALLACII.

WALLACE'S BIRD OF PARADISE.

PARADISEA (SEMIOPTERA) WALLACII, G. R. Gray, Proc. Zool. Soc. (1859) p. 130.—Schleg. Mus. Pays-Bas (1867), p. 91.—Id. Journ. für Ornith. (1861) p. 385.

SEMIOPTERA WALLACII, G. R. Gray, Proc. Zool. Soc. (1860) pp. 61, 355.—Gould, Birds of Austr. Suppl. pl. 3.—Gray, Hand-l. Birds (1869), pt. i. p. 105. no. 1276.—Sclat. Ibis (1860), p. 26, pl. 2.—Wall. Ibis (1859), p. 210 (note); (1861), p. 212.—Id. Malay Archip. vol. ii. p. 17.—Von Rosenb. Journ. für Ornith. (1864) p. 125.

HAB. Batchian, Halmahera (WALLACE and BERNSTEIN).

This strange form of Paradise-bird was discovered by Mr. Wallace in the island of Batchian, and is one of the most remarkable species that he has ever made known to the scientific world. It differs in so many ways from the other members of this family, that it cannot be compared with any one of them; and although its general plumage is plain and dull, yet the rich green breast, the feathers extending in lengthened plumes on either side, together with the extraordinary character presented in the two feathers springing from each wing, elevate this bird to a place among the most singular members of the Paradiseidæ. How rejoiced was the naturalist, after much toil, anxiety, and many disappointments, to obtain a new Bird of Paradise, the first procured for many years, can be better appreciated by his letter written to Mr. Stevens, at the time of his great acquisition, and which I here reproduce:—"Batchian, 29th Oct., 1858.—Here have I been as yet only five days; but, from the nature of the country, and what I have already done, I am inclined to think it may prove one of the best localities I have visited. Birds are as yet very scarce; but I still hope to get a fine collection, though I believe I have already the *finest and most wonderful bird* in the island. I had a good mind to keep it a secret; but I cannot resist telling you. I have a new *Bird of Paradise*! of a new genus!! quite unlike any thing yet known, very curious and very handsome!!! When I get a couple of pairs, I will send them overland, to see what a new Bird of Paradise will really fetch. Had I seen the bird in Ternate, I should never have believed it came from *here*, so far out of the hitherto supposed region of the *Paradiseidæ*. I consider it the *greatest* discovery I have yet made; and it gives me hopes of getting other species in Gilolo and Ceram. . . . I can do nothing at drawing birds, but send you a horrible sketch of my discovery, that you may not die of curiosity." In Mr. Wallace's most interesting volumes on the Malay archipelago, he gives the following account of the way he procured this species:—"Just as I got home I overtook Ali returning from shooting, with some birds hanging from his belt. He seemed much pleased, and said "Look here, Sir, what a curious bird!" holding out what at first completely puzzled me. I saw a bird with a mass of splendid green feathers on its breast, elongated into two glittering tufts; but what I could not understand was a pair of long white feathers, which stuck straight out from each shoulder. Ali assured me that the bird stuck them out in this way itself, when fluttering its wings, and that they had remained so without his touching them. I now saw that I had got a great prize, no less than a completely new form of the Bird of Paradise, differing most remarkably from every other known bird. The Standard-wing is found in Gilolo as well as in Batchian; and all the specimens from the former island have the green breast-shields rather longer, the crown of the head darker violet, and the lower parts of the body rather more strongly scaled with green. This is the only Paradise-bird yet found in the Moluccan district, all the others being confined to the Papuan Islands and North Australia."

Mr. G. R. Gray, in whose hands the sketch made by Mr. Wallace, of this species, was placed, gave to it the appropriate generic name of *Semioptera* or Standard-wing, and, as a just tribute to its discoverer's indefatigable energy, and scientific attainments, the specific one *Wallacii*. In a letter to Mr. Gould, Mr. Wallace writes:—"the *Semioptera Wallacii* frequents the lower trees of the virgin forests, and is almost constantly in motion. It flies from branch to branch, and clings to the twigs, and even to the vertical smooth trunks almost as easily as a Woodpecker.

It continually utters a harsh croaking cry, something between that of *Paradisea apoda* and the more musical cry of *Cicinnurus regius.* The males, at short intervals, open and flutter their wings, erect the long shoulder-feathers, and expand the elegant shields on each side of the breast. Like the other Birds of Paradise, the females and young males far outnumber the fully plumaged birds, which renders it probable that the extraordinary accessory plumes are not fully developed until the second or third year. The bird seems to feed principally upon fruit, but it probably takes insects occasionally. The iris is of a deep olive, the bill horny olive, the feet orange, and the claws horny. I have now obtained a few examples of apparently the same bird from *Gilolo*; but in these the crown is of a more decided violet hue, and the plumes of the breast are much larger." Regarding these Gilolo or Halmahera (as it is also called) specimens, Mr. Gray, in his list of the birds procured by Mr. Wallace, published in the 'Proceedings of the Zoological Society' for 1860, page 355, says "that they cannot be considered as more than a local variety"—in which opinion I fully agree, and do not deem them in any way entitled to specific distinction.

The reduced figure of the male in the Plate was taken from a Gilolo specimen; so that it may be easily seen how very unimportant are its variations from the Batchian form, represented by the life-size figure.

Male.—Upper part of head and occiput rich violet; feathers extending over the bill for half its length, hiding the nostrils, short, upright, yellowish in colour; back very dark brown; rump lighter brown; primaries brownish white; secondaries light brown; from each shoulder spring two lengthened white feathers, bare of webs at the base, widening as they approach the tip, capable of being erected above the wing; upper part of throat dark brown, with a slight greenish reflection in the centre; upper portion of breast brilliant grass green, the feathers extending on each side into greatly lengthened plumes, elevated or depressed at the will of the bird. Beneath this breast-shield the feathers are tipped with the same lustrous green; but the light buff of the base is visible in places, so that the green is not in a solid mass as on the upper part of the breast; rest of underparts very dark brown, having a greenish tinge on the belly; tail very light brown, shafts white, as are also those of the primaries and secondaries; bill horn-colour; feet and tarsi flesh-colour. Specimens from Halmahera have the violet of the crown darker and more restricted, the side plumes longer, and the lower part of the breast slightly more green; the feathers do not extend quite so far over the bill. They cannot be regarded as any thing but a mere local form, in no way entitled to be considered specifically distinct.

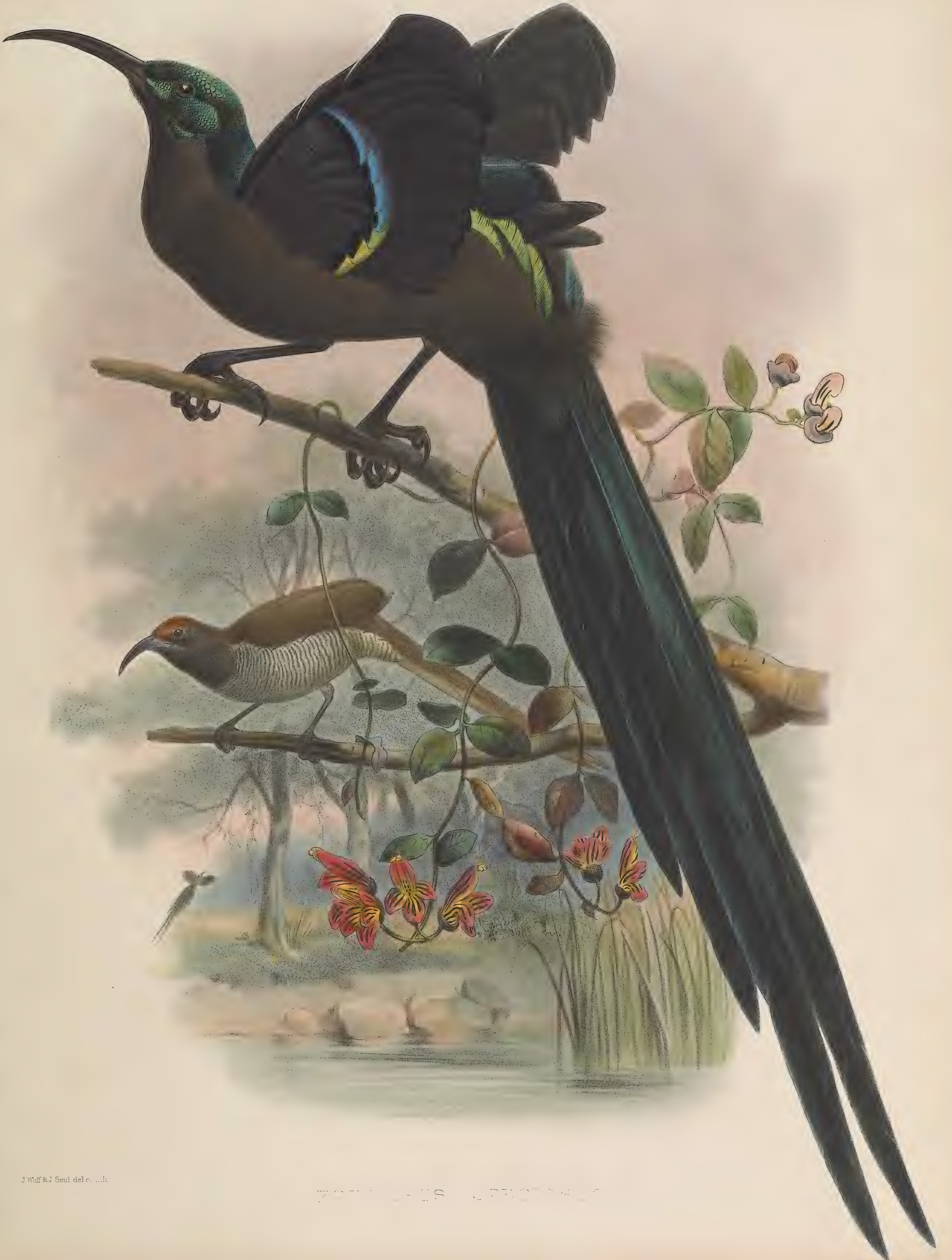
Female.—Fore part of head light rufous brown, rest of head light purplish brown; upper parts and wings pale brown, becoming lighter on the rump; primaries very light brown, outer webs and tips nearly white; secondaries light brown; entire underparts uniformly a pale brown, inclining to white upon the cheeks and upper part of the throat; tail light brown, shafts white; bill horn-colour. Feet and tarsi flesh-colour.

Young Male.—Similar in plumage to the female, some of the feathers on the throat and upper part of the breast changing to a rich green, apparently by a gradual process and not by a moult. The two feathers from the shoulders quite short, light brown for three quarters of their length, the apical portion only light green, they being also in process of change.

The Plate contains life-size figures of the male and female from Batchian, with a reduced figure of a male from Gilolo.

SUBFAMILY EPIMACHINÆ.

Bill long, curved, attaining the maximum of development in the species known as *Drepanornis Albertisi*. Males possessing developed plumes, but in a minor degree to those of the first subfamily.



J Wolf & J Smit del et lith

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EPIMACHUS SPECIOSUS.

GREAT SICKLE-BILL BIRD OF PARADISE.

UPUPA SPECIOSA, Bodd. Tab. Plan. Enlum. (1783), ♂.
UPUPA STRIATA, Bodd. Tab. Plan. Enlum. (1783), ♀.
LE GRAND PROMÉROPS DE LA NOUVELLE GUINÉE, Sonn. Voy. Nouv. Guin. (1776) p. 163, pl. 101.
LE PROMEROPS BRUN DE LA NOUVELLE GUINÉE, Sonn. Voy. Nouv. Guin. (1776) p. 164, pl. 100.
LE PROMÉROPS À LARGE PARURE, Levaill. Hist. Nat. des Promerop. et des Guêp. pls. 13 & 15.
UPUPA MAGNA, Gmel. Syst. Nat. vol. i. pt. i. (1788) p. 468. sp. 7.
UPUPA PAPUENSIS, Lath. Ind. Ornith. (1790) vol. i. p. 279. sp. 6.
UPUPA SUPERBA, Lath. Ind. Orn. (1790) vol. i. p. 279. sp. 7.
PROMÉROPS DE LA NOUVELLE GUINÉE, Buff. Plan. Enlum. nos. 638, 639, vol. vi.
UPUPA FUSCA, Gmel. Syst. Nat. (1788) vol. i. pt. i. p. 468. sp. 6.
PARADISEA PROMEROPS, Gmel. Syst. Nat. (1788) vol. i. pt. i. p. 467. sp. 3.—Shaw, Gen. Zool. (1811) vol. viii. pt. i. p. 147, *juv.*
PROMEROPS SUPERBUS, Shaw, Gen. Zool. (1811) vol. viii. pt. i. p. 145.
PROMEROPS STRIATA, Shaw, Gen. Zool. (1811) vol. viii. pt. i. p. 144.
FALCINELLUS SUPERBUS, Vieill. Nouv. Dict. d'Hist. Nat. vol. xxviii. p. 166 (1817).
LE PROMÉROPS RAYÉ, Vieill. Ois. dor.
GRAND PROMEROPS, Lath. Syn. vol. ii. p. 695, t. 32.
FALCINELLUS MAGNUS, Vieill. Analyse (1816), p. 47.
GRAND PROMÉROPS À PAREMENS FRISÉS.—Buff. Hist. Nat. des Ois. p 472.
EPIMACHUS MAGNUS, Cuv. Règn. Anim. (1817) p. 407.
EPIMACHUS SUPERBUS, Wagl. Syst. Av. (1827) sp. 1.—Shaw, Gen. Zool. (1826) vol. xiv. p. 77.—Less. Trait. Ornith. (1831) p. 321. sp. 3. Atlas, pl. 73. fig. 1.—Von. Rosenb. Journ. für Ornith. (1864) p. 123.
CINNAMOLEGUS PAPUENSIS, Less. Hist. Nat. des Parad. (1835) pls. 39, 40; Syn. p. 32. sp. 4.
EPIMACHUS MAGNUS, Bon. Consp. Gen. Av. (1850) p. 411. sp. 1.—Wall. Proc. Zool. Soc. (1862) p. 160.—Id. Ibis (1861), p. 287.—Schleg. Neder. Dierk. vol. i. p. 332.—Wall. Malay Archip. vol. ii. p. 255.—Schleg. Journ. für Ornith. (1861) p. 386.
EPIMACHUS SPECIOSUS, Gray, Gen. of Birds (1845), vol. i. p. 94. sp. 1.—Schleg. Mus. Pays-Bas (1867), p. 94.
EPIMACHUS MAXIMUS, Gray, Hand-l. Birds (1869), pt. i. p. 105. No. 1274.—Id. Proc. Zool. Soc. (1861) p. 433.

HAB. New Guinea.

THIS is another species of which nothing is known, except what can be derived from the inspection of dried, often mutilated skins. The development of its plumes is most wonderful, and cannot fail to excite the admiration even of the most casual observer. Mr. Wallace did not succeed in obtaining it during his long wanderings in the Eastern archipelago. He says that "this splendid bird inhabits the mountains of New Guinea, in the same district with the Superb (*Lophorina atra*) and the Six-shafted (*Parotia sexpennis*) Paradise-birds, and, I was informed, is sometimes found in the ranges near the coast. I was several times assured by different natives that this bird makes its nest in a hole underground, or under rocks, always choosing a place with two apertures, so that it may enter at one, and go out at the other. This is very unlike what we should suppose to be the habits of the bird; but it is not easy to conceive how the story originated if it is not true; and all travellers know that native accounts of the habits of animals, however strange they may seem, almost invariably turn out to be correct."

In 1816, Vieillot, in his 'Analyse,' page 47, proposed the generic term of *Falcinellus* for this species, using as his type the *Promérops de la Nouvelle Guinée* of Buffon's 'Planches Enluminées,' 638, 639, vol. vi. This, however, could not be adopted, since the same term had been proposed by Bechstein in 1803 (Gem. Naturg.) for a species of Heron; and Cuvier's appellation of *Epimachus,* proposed in his 'Règne Animal,' 1817, p. 407, is therefore the next in order.

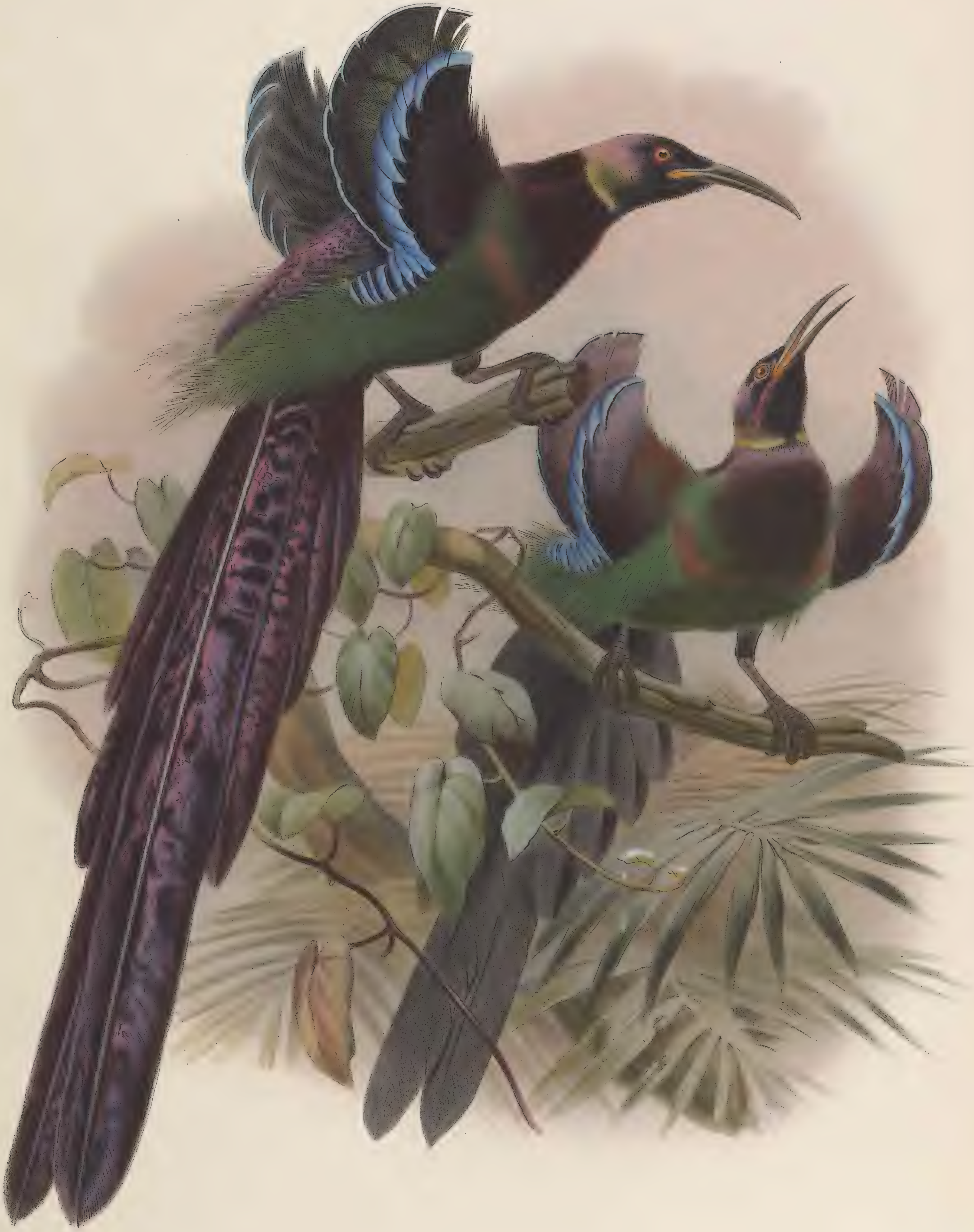
EPIMACHUS SPECIOSUS.

The *E. speciosus* was first named by Boddaert, as quoted in the list of synonyms given above. Gray, in his 'Handlist,' refers it, however, to the *E. maximus* of Scopoli. I have been unable to find this name. It is not in 'Annus primus;' and as this is the only one of Scopoli's works that takes precedence of Boddaert, we may properly deem the appellation given by the latter author the correct one for the species.

Male.—Upper part of head bright metallic steel-blue. Entire upper parts brownish black, with steel-blue reflections; a line of metallic steel-blue feathers in the centre of the back, purple in some lights. Primaries and secondaries brownish black, the latter with steel-blue reflections. Cheeks metallic blue, with purple gloss. Chin purplish black; throat bright purple. Entire underparts dark olive-green. On each side of the breast spring a mass of lengthened feathers, with very broad outer webs, exceedingly narrow inner ones, curving abruptly downwards at the tips, purplish black, the lower feathers tipped with most brilliant steel-blue, glossed with purple and green, forming a most conspicuous bar on either side of the body. The lower flank-feathers extending beyond these lateral plumes are tipped broadly with brilliant metallic green, separated from the olive-brown of the remaining portion by a narrow line of blue, followed by one of black. Two central tail-feathers exceedingly long, black, with steel-blue and purple reflections; remaining feathers brownish black. Bill long, slender, and much curved, jet-black. Feet and tarsi also black.

Female.—Upper part of head brownish red; rest of upper parts olive-brown, becoming slightly rufous on the rump and upper tail-coverts. Secondaries reddish brown edged with rufous. Primaries dark brown; edge of outer web rufous. Cheeks, throat, and upper part of breast brownish black. Underparts white narrowly barred with black. Tail light brown, with a rufous tinge. Bill long and slender, much curved, and, together with the feet and tarsi, jet-black.

The above descriptions are taken from perfect skins belonging to the Leyden Museum, loaned to me by Prof. Schlegel.



J.Wolf & J.Smit del et lith

M & N Hanhart imp

EPIMACHUS ELLIOTI.

EPIMACHUS ELLIOTI.

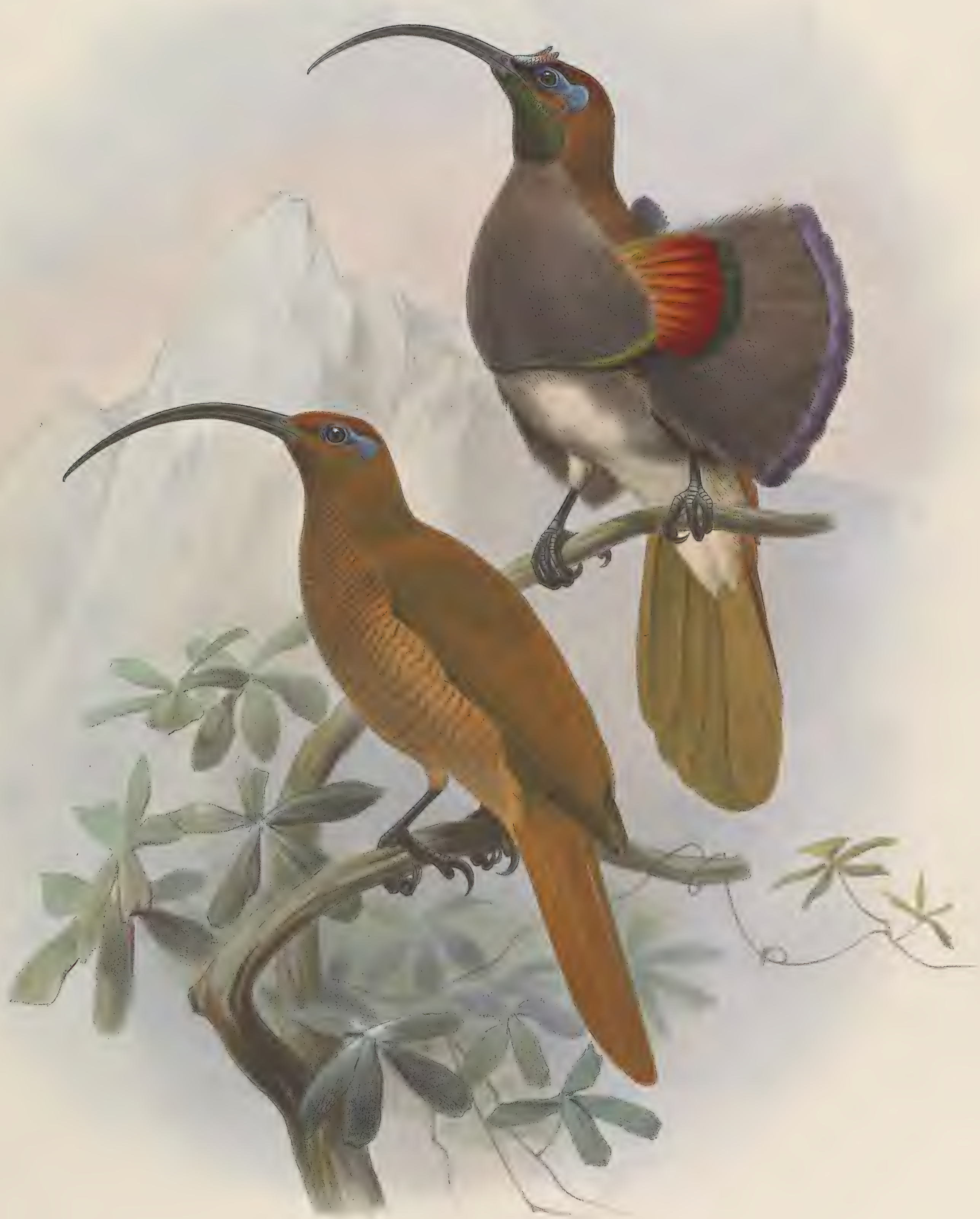
ELLIOT'S BIRD OF PARADISE.

EPIMACHUS ELLIOTI, Ward, Proc. Zool. Soc. (1873, November 18) p. .

Hab. New Guinea.

This very beautiful species, by which I am honoured in having it bear my name, was lately described by Mr. E. Ward in the 'Proceedings of the Zoological Society,' as above stated. Mr. Ward obtained it in a small collection of birds from the East Indies; and it is presumed that its native country is New Guinea, that land which has produced so many wonderful animal forms, and which is regarded as the home of the remarkable Birds of Paradise. Although essentially belonging to the genus *Epimachus*, the present bird is very distinct from the single previously known species with which every one has been familiar for many years; and it is very interesting at this late day to become acquainted with a second, allied form of the same genus. The *Epimachus Ellioti* is only about two thirds the size of its large relative; but it is possessed of far more brilliant colours in its plumage, and in the sunlight must present a beautiful appearance indeed as its rich velvety feathers throw off their changeable hues of purple and green, with the metallic colours of the tips of the side-plumes flashing on the eye as the bird raises them tremblingly over its wings. The broad tail-feathers, with their amethyst dyes, look not unlike watered silk, and are of velvety softness, as is, indeed, the entire plumage of the body. The skin, having been prepared by a native, was deprived of its primaries and legs; but otherwise it was in good condition—sufficiently so to enable Mr. Wolf to produce the beautiful and characteristic drawing on the accompanying Plate, which is a very faithful representation of the species. The female is unknown, but would probably resemble that of *E. speciosus*. The species may be described as follows:—

Top of head rich amethyst; occiput and side of neck also amethyst-colour, changing in certain lights to a rich light greenish gloss. Back, wings, upper tail-coverts, and tail, brilliant violet-purple; the wings and tail also marbled with a dark amethyst hue, like watered silk, changing according to light. Throat and upper part of breast deep maroon-colour, with purple reflections. A narrow reddish purple band crosses the lower part of the breast. Sides of the breast, flanks, and rest of underparts dark green. The flank-feathers much elongated, and stretching beyond the wing. Beneath the shoulder of the wing spring two rows of plumes, which are greenish at their base, graduating into deep purple, and terminating in a brilliant metallic blue very much narrower on the upper row than on the lower one. The plumage of the entire bird is very velvety in texture, and, with the exception of the metallic parts, appears black in ordinary lights. Bill black, rich orange-yellow at gape. The figures are life-size.



J.Wolf & J.Smit. del. et lith.

M & N.Hanhart. imp.

DREPANORNIS ALBERTISI.

DREPANORNIS ALBERTISI.

D'ALBERTIS'S BIRD OF PARADISE.

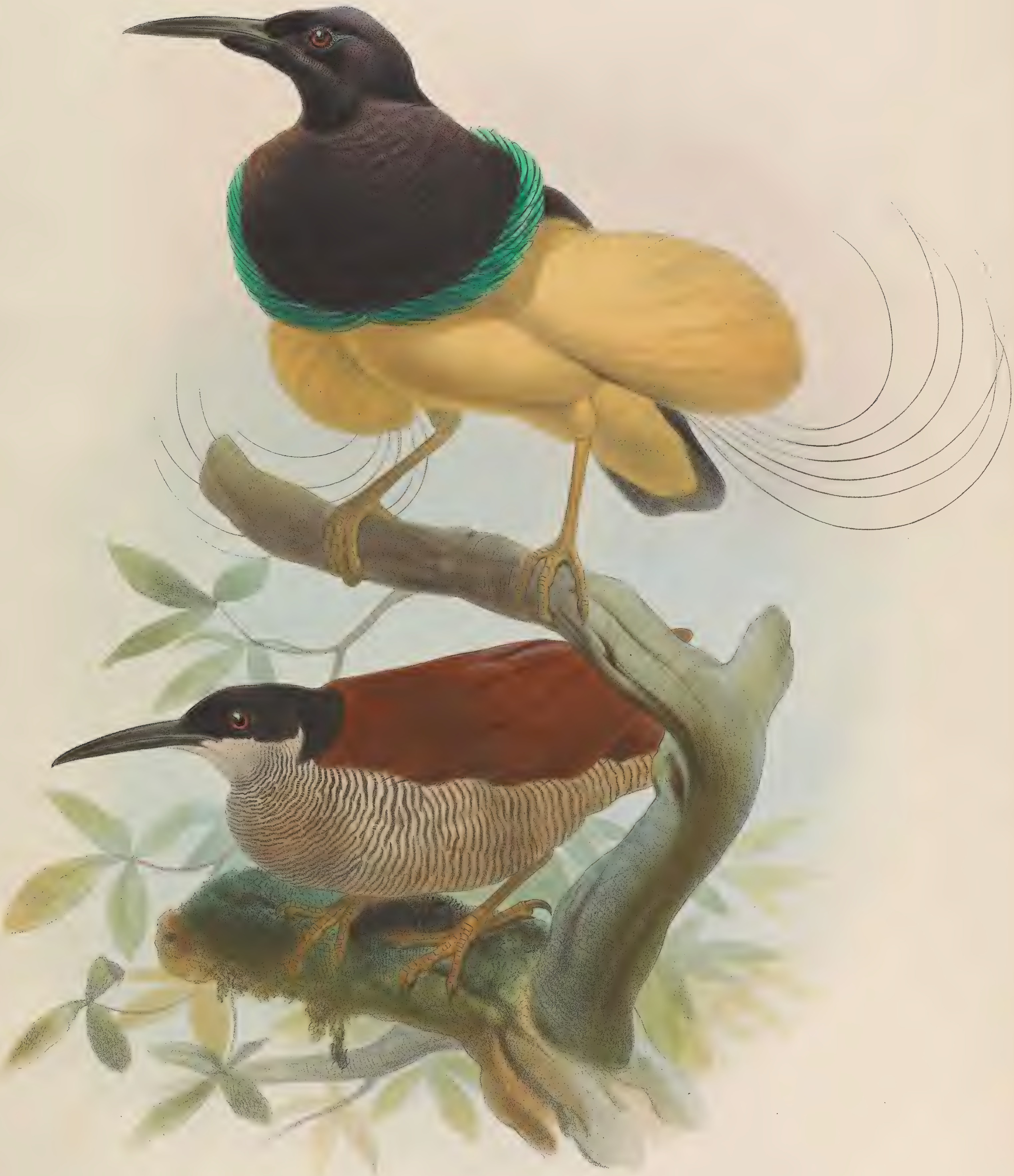
DREPANORNIS ALBERTISI, Sclater, Proc. Zool. Soc. (1873) p. 558.

Hab. Mount Arfak, New Guinea (Albertis).

Perhaps the most wonderful, as it certainly is the most interesting bird procured by Signor d'Albertis during his stay in New Guinea is the present species, a pair of which, representing both sexes, were included in the small collection forwarded to Dr. Sclater, a list of which, with descriptions of the novelties, has been lately published in the Proceedings of the Zoological Society of London. Among the peculiarities of this new form, is the very long and greatly curved bill, this being, strangely enough, longer and more curved in the female than in the male. The latter, although it might at first sight be deemed rather a plain bird, is really possessed of an extraordinary and beautiful adornment, in the two tufts of plumes springing from its sides, which, when raised and spread above the body, would present an ornament almost unique of its kind, and the bird would then appear to the greatest advantage; the brilliant metallic red of the feathers composing the smaller tuft would flash upon the eye in the sun's rays like a flame, tempered to a certain degree however by the deep-purple terminations of the more lengthened plumes springing a little lower down from the sides. Signor d'Albertis's notes on this species, furnished to Dr. Sclater, are as follows:—"This will probably prove to be a new bird, both generically and specifically. It is a very rare bird; and many of the natives did not know it; but others called it 'Quarna.' The peculiarity of this bird consists in the formation of the bill, head, and softness of the plumage. At first it does not appear to have the beauty peculiar to other birds of this class; but when observed more closely in a strong light, the plumage is seen to be rich and brilliant: the feathers rising from the base of the beak are of a metallic green, and reddish copper-colour; the feathers of the breast when smooth are of a violet-grey, and when raised form a semicircle round the body, reflecting a rich golden colour; other violet-grey feathers arise from the flanks, which are edged by a rich metallic violet tint; and when the plumage is entirely expanded, the bird appears as if it had formed two semicircles around itself, very handsome. * * * This species is met with in the vicinity of Mount Arfak. Its food is not known, nothing having been found in the stomachs of those prepared except clean water."

Male.—Head covered with short rather stiff light-brown feathers tipped with deep purple. Two spots of metallic-blue feathers between the eyes and bill, projecting above the eyes like horns; a spot of bare skin behind the eyes, apparently red. Neck and back rufous brown. Primaries blackish brown, edged with light rufous brown on the outer webs. Secondaries light rufous brown on outer web, black on the inner, edged with very light reddish brown. The three innermost secondaries light reddish brown on both webs. Upper tail-coverts and tail bright reddish brown. Chin and throat metallic deep purple, black in certain lights. Breast covered with long feathers, grey, with rich purple reflections, and edged on the lower part with dull green, crossing the body in a narrow bar. From either side near the shoulder of the wing spring two tufts of feathers that extend beyond the breast-shield, of an intense metallic fiery red, tipped with purple. These when not elevated are altogether hidden by the outer feathers, which are uniform purple like the breast. From the flanks, just above the termination of the breast-shields, on either side, project two long tufts of plumes, which extend to the end of the under tail-coverts, of the same colour as the breast, brownish grey, each feather tipped with very brilliant deep purple. The abdomen and under tail-coverts pure white, the former streaked with purplish grey on the upper portion. Bill very long, slender and much curved, black. Feet and tarsi dark lead-colour.

Female.—Head chestnut-brown. Back and wings rufous brown. Primaries and secondaries blackish brown on inner web, outer web brown. Upper tail-coverts and tail light red. Chin and throat blackish brown, each feather with a central streak of light brown. Breast light brown, irregularly barred with dark brown. Flanks and lower parts of body yellowish brown, indistinctly barred with dark brown, except in the centre of the abdomen, which is light reddish white. Thighs reddish, barred with brown, under tail-coverts pale reddish. Iris chestnut. Bill long, curved, and slender like that of the male, black. Feet and tarsi lead-colour.



J Wolf & J Smit del et lith

M&N Hanhart imp

SELEUCIDES ALBA.

SELEUCIDES ALBA.

TWELVE-WIRE BIRD OF PARADISE.

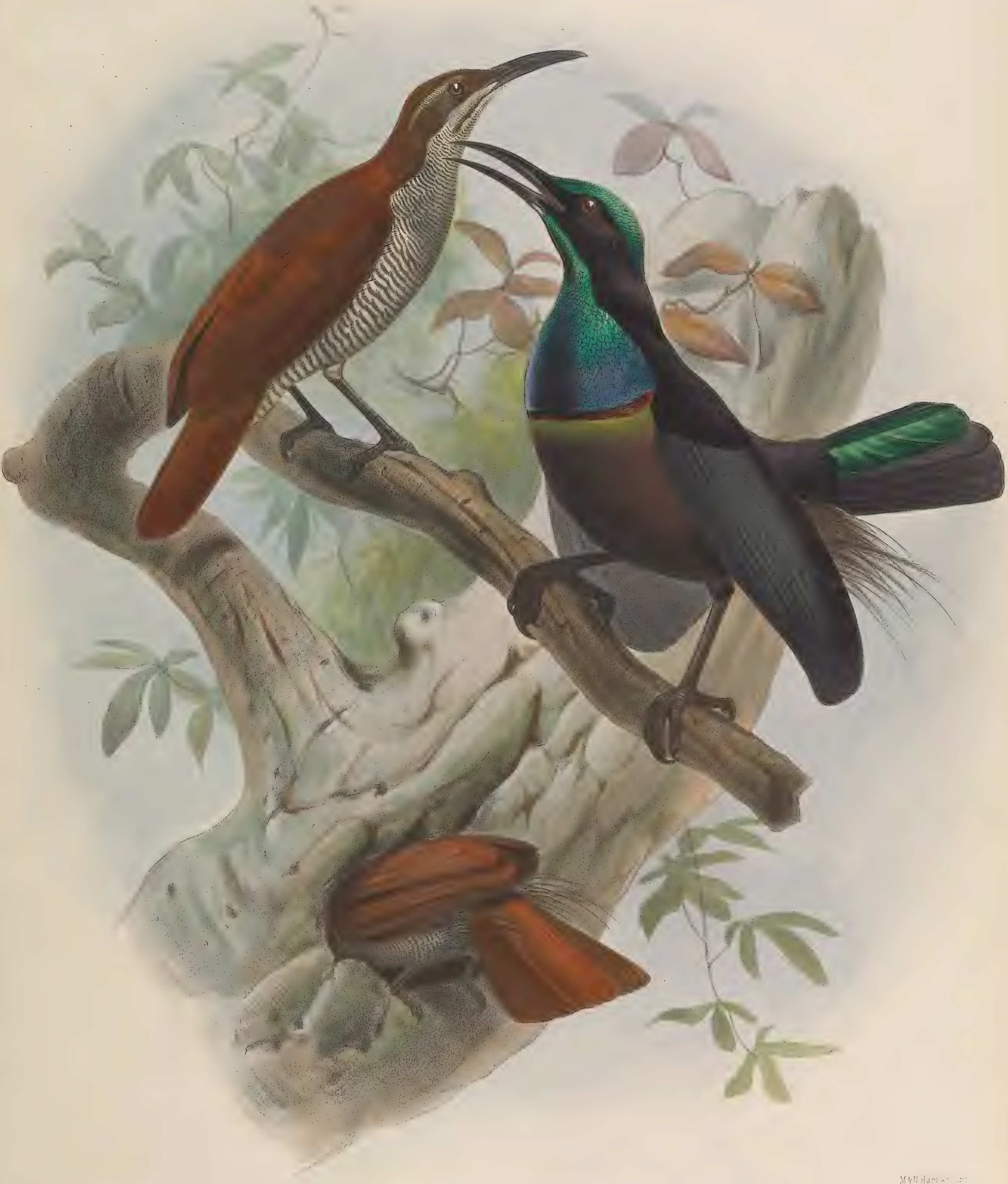
PARADISEA ALBA, Gmel. Syst. Nat. (1788) vol. i. pt. i. p. 402.—Lath. Ind. Orn. (1790) vol. ii. p. 195. sp. 112.—Blumenb. Abbild. naturh. Gegen. (1810) pl. 96.—Bechst. Kurze Uebers. (1811) p. 133. sp. 15.—Schleg. Journ. für Ornith. (1861) p. 386.
TWELVE-WIRED PARADISE-BIRD, Lath. Gen. Hist. Birds (1822), vol. iii. p. 199, pl. 48.
PARADISEA VIOLACEA, Bechst. Kurze Uebers. (1811) p. 133. sp. 12.
PARADISEA CANDIDA, Forst. Zool. Ind. p. 35.
PARADISEA VAILLANTI, Shaw, Nat. Misc. vol. xxiv. pl. 1025.
PARADISEA NIGRA, Shaw, Gen. Zool. (1809) vol. vii. pt. ii. p. 488, pl. 60.
PARADISEA NIGRICANS, Shaw, Gen. Zool. (1809) vol. vii. pt. ii. p. 489, and (1826) vol. xiv. p. 76.
LE NÉBULEUX, Levaill. Hist. Nat. des Ois. Parad. vol. i. pls. 16 & 17.—Shaw, Gen. Zool. (1809) vol. vii. pt. ii. p. 491, pl. 61.
LE PROMEROPS MULTIFIL, Levaill. Hist. des Prom. et des Guép. t. 17.
LE PROMEROPS À DOUZE FILETS, Vieill. Gal. des Ois. t. 185.
FALCINELLUS RESPLENDENS, Less. Trait. Orn. (1831) p. 324. sp. 1.—Vieill. Ois. dor. p. 65.
SELEUCIDES ACANTHYLIS, Less. Hist. Nat. des Parad. t. 36, 37, 38; Syn. p. 29. sp. 3.
LE MANUCODE À DOUZE FILETS, Vieill. Ois. dor. vol. ii. (1802) p. 29, t. 13.
EPIMACHUS ALBUS, Wagl. Syst. Av. (1827) sp. 9.—G. R. Gray, Gen. of Birds (1845), vol. i. p. 94. sp. 2—Id. Hand-l. Birds (1869), pt. i. p. 105. no. 1275.—Id. Proc. Zool. Soc. (1861) p. 433.—Schleg. Mus. Pays-Bas (1867), p. 95.—Wall. Proc. Zool. Soc. (1862) p. 160.
WHITE-WINGED PARADISE-BIRD, Lath. Gen. Hist. vol. iii. (1822) p. 197. sp. 15.
SELEUCIDES ALBA, Bon. Consp. Gen. Av. (1850) p. 412. sp. 1.—Wall. Malay Archip. vol. ii. p. 253.
SELEUCIDES RESPLENDENS, Von. Rosenb. Journ. für Ornith. (1864) p. 123.

HAB. New Guinea, Salwatty (WALLACE) (SCHLEGEL).

THE Twelve-wire Bird of Paradise belongs to the long-billed section of the family, and is noted for the twelve wire-like filaments which spring six on a side from the long flank-plumes, and recurve backwards towards the head. It is dressed in strong contrasting colours, the rich purplish black of the head and breast separated from the white underparts by a brilliant line of metallic green. As yet, besides the mainland of New Guinea, it has only been found on the island of Salwatty—where it does not appear to be very uncommon, as I have noticed it to be present in several collections sent from that locality—principally, however, young males and females; and the skins are generally imperfect, with, like all native preparations, a stick run through the body, coming out of the mouth. Mr. Wallace and his assistants procured this bird, and sent to England the finest specimens ever seen in collections; and in its perfect state it truly is a magnificent species. In his work, from which I have already had occasion to quote, Mr. Wallace says that "the *Seleucides alba* is found in the island of Salwatty, and in the north-western parts of New Guinea, where it frequents flowering trees, especially sago-palms and pandani, sucking the flowers, round and beneath which its unusually large and powerful feet enable it to cling. Its motions are very rapid. It seldom rests more than a few moments on one tree, after which it flies straight off, and with great swiftness, to another. It has a loud shrill cry, to be heard a long way, consisting of 'Cáh, cáh,' repeated five or six times in a descending scale; and at the last note it generally flies away. The males are quite solitary in their habits, although, perhaps, they assemble at certain times like the true Paradise-birds. All the specimens shot and opened by my assistant, Mr. Allen, who obtained this fine bird during his last voyage to New Guinea, had nothing in their stomachs but a brown sweet liquid, probably the nectar of the flowers on which they had been feeding. They certainly, however, eat both fruit and insects; for a specimen which I saw alive on board a Dutch steamer ate cockroaches and papaya-fruit voraciously. This bird had the curious habit of resting at noon with the bill pointing vertically upwards. It died on the passage to Batavia; and I secured the body and formed a skeleton, which showed indisputably that it is really a Bird of Paradise. The tongue is very long and extensible, but flat and a little fibrous at the end, exactly like the true Paradiseas. In the island of Salwatty the natives search in the forest till they find the sleeping-place of this bird, which they know by seeing its dung upon the ground. It is generally in a low bushy tree. At night they climb up the tree, and shoot the birds with blunt arrows, or even catch them alive with a cloth. In New Guinea they are caught by placing snares on the trees frequented by them, in the same way as the Red Paradise-birds are caught in Waigiou."

Male.—Head, neck, and throat velvety black, changing in certain lights to a beautiful rich purple; back beautiful changeable olive-green. Primaries purplish black; secondaries brilliant metallic purple. Entire upper part of breast deep velvety black. Feathers of the throat projecting forwards on to the lower mandible. On the lower edges of the feathers of the breast, which are lengthened and capable of being puffed out from the body, is a line of exceedingly brilliant metallic emerald-green. Flank-feathers (which are lengthened into dense lateral plumes) and lower parts deep rich buff. The shafts of the flank-feathers extend far beyond the plumes proper, and curve backwards towards the body, six on either side, and are black above, white beneath. The tail is the same rich purple as the secondaries. Bill long, black. Feet and tarsi red.

Female.—Head and back of neck velvety black. Entire upper parts, wings, and tail deep reddish chestnut. Primaries and secondaries purplish brown on their inner webs, reddish chestnut on the outer. Chin buffy white. Entire underparts buffy white barred with dark brown, darkest on the upper part of breast. Bill black. Feet and tarsi flesh-colour.



J. Wolf & J. Smit del. et lith.

PTILORIS MAGNIFICUS.

M & N Hanhart imp.

PTILORIS MAGNIFICUS.

MAGNIFICENT RIFLE-BIRD.

L'EPIMAQUE PROMÉFIL, Cuv. Règn. Anim. (1817) p. 408.

FALCINELLUS MAGNIFICUS, Vieill. Nouv. Dict. d'Hist. Nat. (1819) tom. xxviii. p. 167, pl. G. 80, No. 3.—Id. Encycl. Méth. t. ii. p. 579.

LE PROMÉFIL, Levaill. Ois. de Parad. p. 36, pl. 16.—Less. Mus. Zool. pl. 29.

EPIMACHUS MAGNIFICUS, Cuv. Règn. Anim. (1819) p. 440.—Wagl. Syst. Av. (1827) sp. 10.—Gray, Proc. Zool. Soc. (1859) p. 155. sp. 18.—Less. Trait. Ornith. (1831) p. 321. sp. 2.—Id. Cent. Zool. (1830) pl. 4, p. 22 (♀), pl. 5 (♂).—Bon. Consp. Gen. Av. (1850) p. 412. sp. 3.—Schleg. Mus. Pays-Bas (1867), p. 96.—Id. Journ. für Ornith. (1861) p. 386.—Less. Ois. Parad. (1835), Syn. p. 27; Hist. Nat. p. 218, pls. 32, 33, & 34.

EPIMACHUS PARADISEUS, Gray, Gen. of Birds (1845), vol. i. pl. xxxii.

EPIMACHUS SPLENDIDUS, Steph. Shaw's Gen. Zool. vol. xiv. p. 77 (1826).

CRASPEDOPHORA MAGNIFICA, Gray, List Gen. of Birds, 2nd ed. p. 15.—Wall. Proc. Zool. Soc. (1862) p. 160.—Von Rosenb. Journ. für Ornith. (1864) p. 128.

PTILORNIS MAGNIFICUS, Gray, Hand-l. Birds, pt. i. p. 105. sp. 1273.

PTILORIS MAGNIFICUS, Elliot, Proc. Zool. Soc. (1871) p. 583.

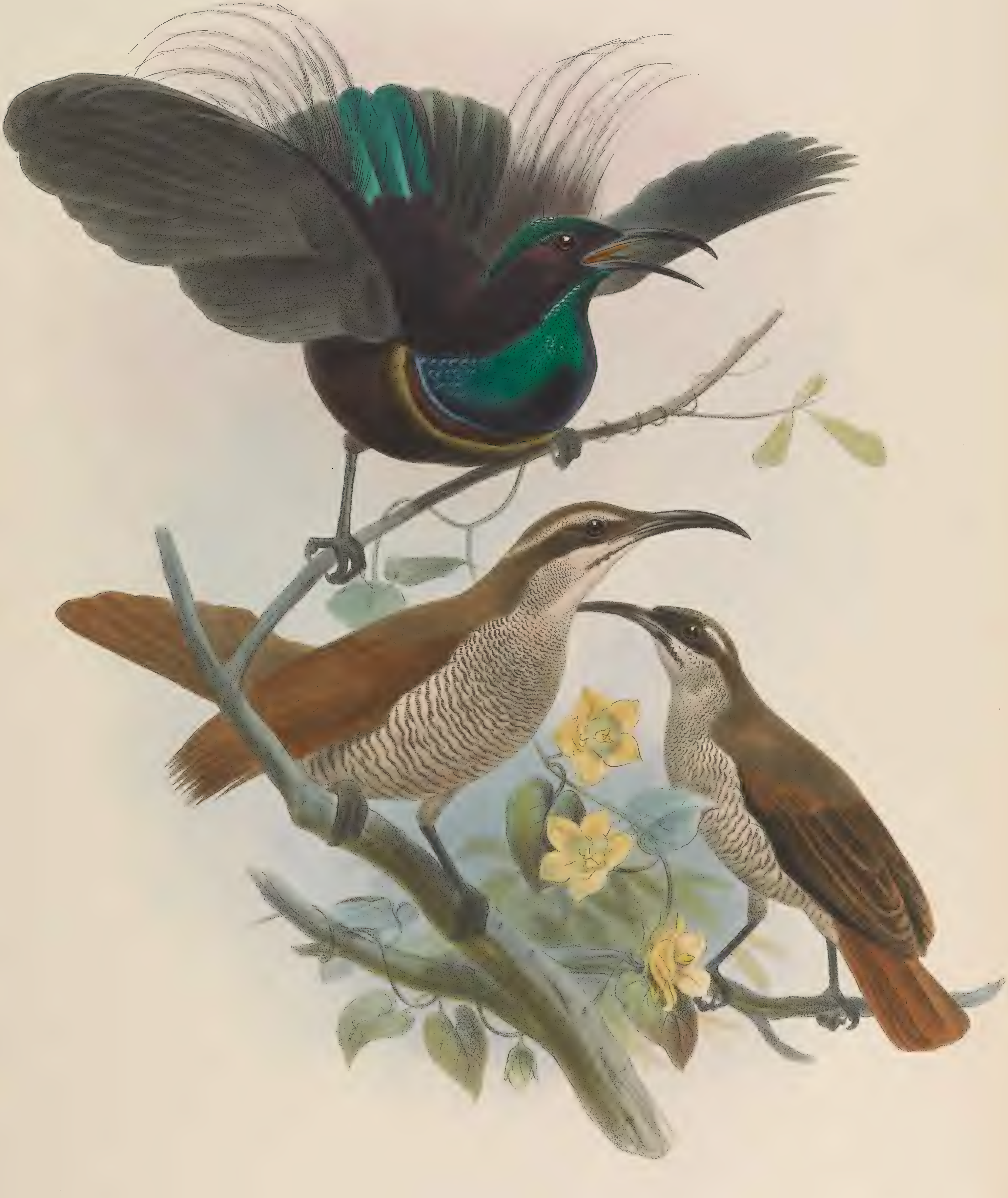
HAB. New Guinea.

I HAVE already pointed out and cleared up the confusion which has always existed between this and the *Ptiloris Alberti* in my paper on this genus, published in the 'Proceedings of the Zoological Society' for 1871, and there indicated the differences existing between them. The present species is much the larger of the two; and the females are very distinct in their coloration, that of the *P. magnificus* being rich rufous-brown on the back, and closely barred with black beneath, while the female *P. Alberti* is pale brown on the back, and rather faintly barred beneath with black. The Magnificent Rifle-bird is a native of New Guinea. It was procured by Lesson at Dorey, who states that "during our sojourn at New Guinea with the corvette 'La Coquille' we only obtained two mutilated skins; and M. Dumont-d'Urville, Commander of the Expedition of the Astrolabe, secured only a single skin deprived of its wings and feet, the manner in which they are usually prepared by the natives. It is in the dense and vast forests which surround the harbour of Dorey in New Guinea that this fine species resides." I am not aware that this bird has ever been found away from the mainland of New Guinea, the one mentioned by Gould and others as *magnificus* being the *P. Alberti*, abundant in certain portions of Australia. It is only very lately that perfect specimens of the present species have been procured; but I now have beautiful examples in my private collection of both sexes in various stages of plumage. The late Mr. G. R. Gray, in a paper published in the 'Annals and Magazine of Natural History' for November 1871, upon the Rifle-birds, states that it is even yet doubtful if this and the Australian bird are distinct. He must have forgotten the series of both in all stages of plumage I showed him; for it would be impossible to find among New-Guinea examples any female with the coloration of the one represented in my Plate, which is the usual style of those that are brought from that great island. Some birds exhibit their specific differences in one sex, some in another. In this form of the genus *Ptiloris* it is the females which present the greatest amount of variation; while those of the genera of *Parotia* and *Lophorina* so closely resemble each other that if the other sex were unknown they might be deemed, without any grave fault being committed, to be races of the same species; and yet the males are so entirely different in every particular that the proper course appears to be to place them in different genera. I am not in favour of the undue multiplication of species; but in the present instance, with ample materials in my possession upon which to form an opinion, I cannot look upon these birds as other than distinct species, although, as is very probably the case, they originally sprang from the same stock, assuming their present distinctive characters after the point of land called Cape York ceased to be a part of the great island now known as New Guinea.

Male.—Top of head and occiput, centre of throat, and entire upper part of breast shining bluish green, purple in certain lights; entire upper parts deep velvety-black, with rich dark purple reflections; primaries black, with green reflections; a narrow line of green, red in some lights, beneath the metallic of the breast; flanks and abdomen purple; side plumes also purple, basal half and filamentary ends black; two central tail-feathers shining green, remainder velvety-black, with green reflections on their outer webs; bill, legs, and feet stout, black.

Female.—Entire upper parts, wings, and tail rich brownish red; superciliary stripe white, the feathers tipped with blackish brown; cheeks, and a line from the base of the lower mandible running back upon the side of the throat, blackish brown; entire underparts narrowly barred with black; bill and feet black.

The Plate represents male, female, and young male of the species, of the size of life.



J. Wolf & J. Smit. del. et lith.

M & N Hanhart imp.

PTILORIS ALBERTI

PTILORIS ALBERTI.

PRINCE ALBERT'S RIFLE-BIRD.

PTILORIS MAGNIFICUS, Gould, Birds of Austr. Supp. pl.
CRASPEDOPHORA MAGNIFICA, Gould, Handb. to Birds of Australia, vol. i. p. 595. sp. 365.
PTILORIS ALBERTI, Elliot, Proc. Zool. Soc. (1871) p. 583.

Hab. Cape York, North-eastern Australia (Macgillivray, Gould).

This is the bird usually called *magnificus* by all authors who have had occasion to mention it. It is a native of Australia, and is very abundant in certain parts of that great continent, particularly in the vicinity of Cape York, whence large numbers have been sent to London in most perfect condition. Mr. Gould remarks that "the researches of Mr. Macgillivray and others enable me to state that it also inhabits the north-eastern portion of Australia—a circumstance of no ordinary interest, since, besides adding another fine species to the already rich fauna of that country, we know that our museums will ere long will be graced with fine and perfect specimens in lieu of the mutilated skins hitherto procurable. We have abundant evidence of its being frequently met with at Cape York, since nearly every officer of the 'Rattlesnake' procured and brought home specimens from that locality." Mr. Macgillivray, who has given about all the information we have of this Rifle-bird, states that it "inhabits the densest of the brushes in the neighbourhood of Cape York. The natives are familiar with it under the name of '*Yagoonga*;' the Darnley islanders also recognized a skin shown them, and described it to be a native of *Dowde*, or the south coast of New Guinea, near Bristow Islands. Its cry is very striking. Upon being imitated by man, which may be easily done, the male bird will answer. It consists of a loud whistle resembling *wheeoo*, repeated three times and ending abruptly in a note like *who-o-o*. Both sexes utter the same note; but that of the male is much the loudest. The old males were generally seen about the tops of the highest trees, where, if undisturbed, they would remain long enough to utter their loud cry two or three times at intervals of from two to five minutes. If a female is near, the male frequently perches on a conspicuous dead twig in a crouching attitude, rapidly opening and closing his wings, the feathers of which by their peculiar form and texture produce a loud rustling noise, which in the comparative stillness of these solitudes may be heard at the distance of a hundred yards, and may be faintly imitated by moving the feathers of a dried skin. The full-plumaged males are much more shy than the females or immature birds. According to the testimony of several of the Cape-York natives whom I questioned upon the subject, the *C. magnifica* breeds in a hollow tree and lays several white eggs. The ovary of a female shot in November, at the commencement of the rainy season, contained a very large and nearly completely formed egg.

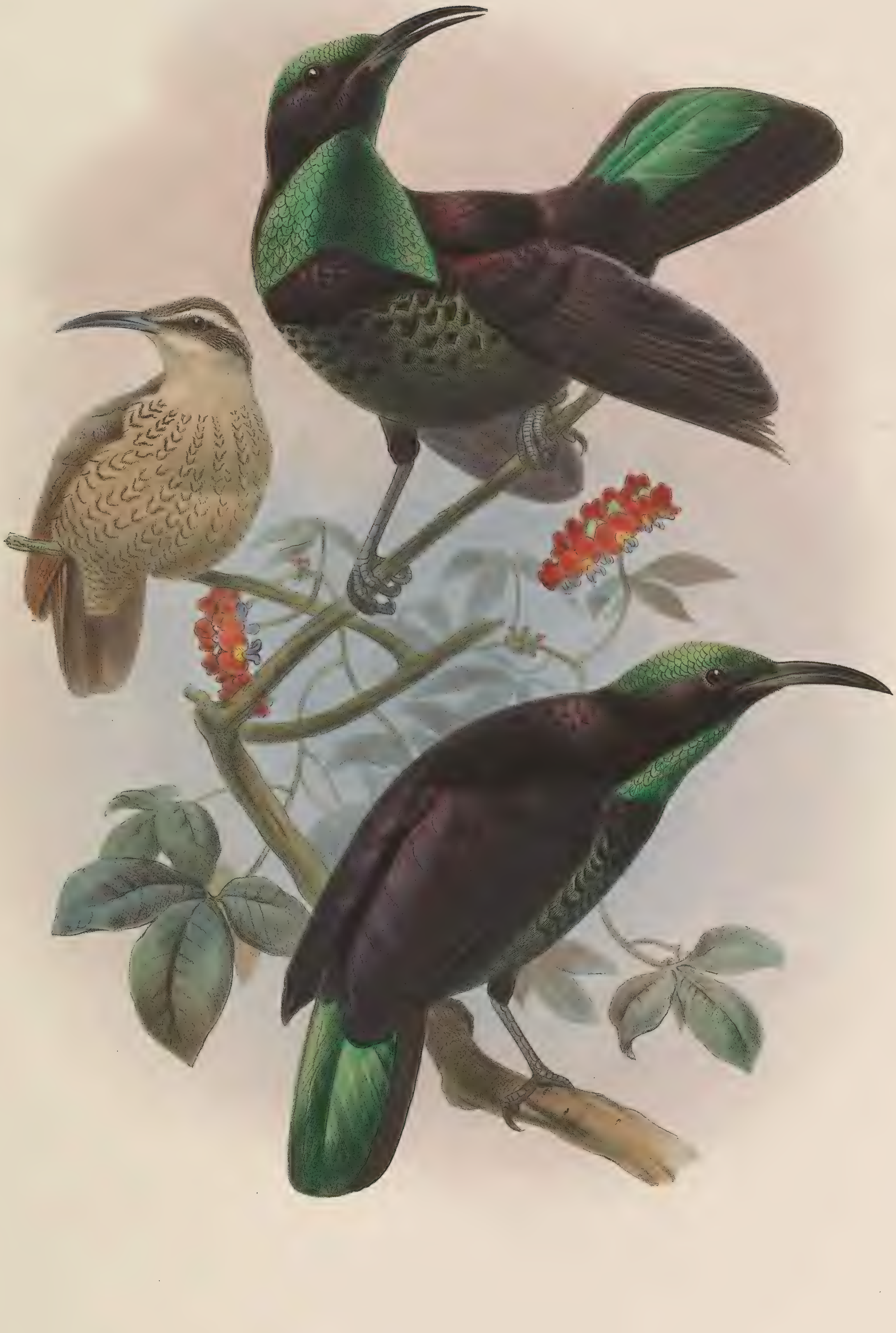
"From the shyness of this Rifle-bird it is difficult to catch more than a passing glimpse of it in the dense brushes which it inhabits; I once, however, saw a female running up the trunk of a tree like a Creeper; and its stomach was afterwards found to be filled with insects only, chiefly ants; while the stomach of a male, shot about the same time, contained merely a few small round berries, the fruit of a tall tree, the botanical name of which is unknown to me."

Male.—Smaller than the *P. magnificus*; top of head, occiput, centre of throat, and upper part of breast metallic bluish green; sides of head, neck, and upper parts velvety black, with a rich purple gloss; primaries greenish black; a bright olive-green line beneath the metallic shield of the breast; rest of underparts dark olive-green, changing upon the base of the flank-plumes to a light purple; under tail-coverts black; two central tail-feathers shining metallic green; remainder black, with green reflections on the outer webs; bill and feet slender, black.

PTILORIS ALBERTI.

Young male, in change, similar in plumage to the female. Front and upper part of head dark green, colours of the adult male having appeared. Inner webs of primaries dark purple, outer rufous brown. Some of the secondaries all dark purple. Chin dark purple, a few green feathers having appeared in the centre. Underparts white, thickly spotted and barred with blackish brown, a few feathers having turned to a rich green on upper part of breast. Tail rufous brown, Bill, feet, and tarsi black.

Female.—Entire upper parts light olive-brown; outer edges of wings and tail rufous brown; a broad blackish brown line from bill through the eye to the nape of the neck; superciliary stripe and throat white; a narrow brownish black line from base of under mandible along side of the throat; upper part of breast white, narrowly barred with brownish black; lower part also white, but the bars fainter and wider apart; bill and feet black.



J. Wolf & J. Smit del. et lith.

M & N Hanhart imp.

PTILORIS PARADISEUS.

PTILORIS PARADISEUS.

PARADISE RIFLE-BIRD.

PTILORIS PARADISEUS, Swain. Zool. Journ. vol. i. p. 481.—Gray, Gen. Birds, vol. i. p. 94.—Cab. Mus. Hein. Theil i. p. 214.—Reich. Hand. der spec. Orn. p. 328.—Gould, Birds of Austr. vol. iv. pl. 100.—Id. Hand-book of Birds Austr. vol. i. p. 591.—Gray, Hand-list of Birds, part i. p. 105. sp. 1271.—Elliot, Proc. Zool. Soc. (1871) p. 582.—Bonap. Consp. Gen. Av. (1850) p. 412. sp. 1.—Less. Ois. Parad. (1835) Syn. p. 25. sp. 1.—Id. Hist. Nat. p. 213, pls. 29 & 30.

EPIMACHUS BRISBANI, Wils. Ill. of Zool. pl. 9.—Less. Man. Ornith. t. ii. p. 6, 320.

EPIMACHUS REGIUS, Less. Zool. Voy. Coquille, pl. 28.—Id. Cent. Zool. pl. 3.

EPIMACHUS PARADISEUS, Schleg. Mus. Pays-Bas (1867), p. 97.—Id. Journ. für Ornith. (1861) p. 386.

HAB. South-eastern Australia (GOULD).

THE Rifle-birds are noted for their soft velvety plumage, brilliant breast-shields, and two central tail-feathers, which shine with a metallic lustre almost impossible to imitate. The present species (one of the most beautiful of the genus) is restricted to the south-eastern part of Australia, where it takes the place of the *P. Alberti*, which is met with in the vicinity of Cape York. These species belong to the long-billed group of Paradise-birds; and their habits resemble somewhat those of the Creepers, such as alighting upon and running up the trunks of trees. Mr. Gould says that "hitherto this magnificent bird has only been discovered in the brushes of the south-eastern portion of Australia; so limited, in fact, does its range of habitat seem to be, that the river Hunter to the southward and Moreton Bay to the eastward may be considered its natural boundaries in either direction. I have been informed by several persons who have seen it in its native wilds that it possesses many habits in common with the *Climacteres*, and that it ascends the upright boles of trees precisely after the manner of those birds. It was a source of regret to me that I had no opportunity of verifying these assertions; but an examination of the structure of the bird induces me to believe that such is the case. That its powers of flight are very limited is certain, from the shortness and peculiarly truncate form of the wing; and this mode of progression is doubtless seldom resorted to further than to transport it from tree to tree or from one part of the forest to another. That it is stationary and breeds in South-eastern Australia is evident from the numerous specimens of all ages that have been sent from thence to Europe."

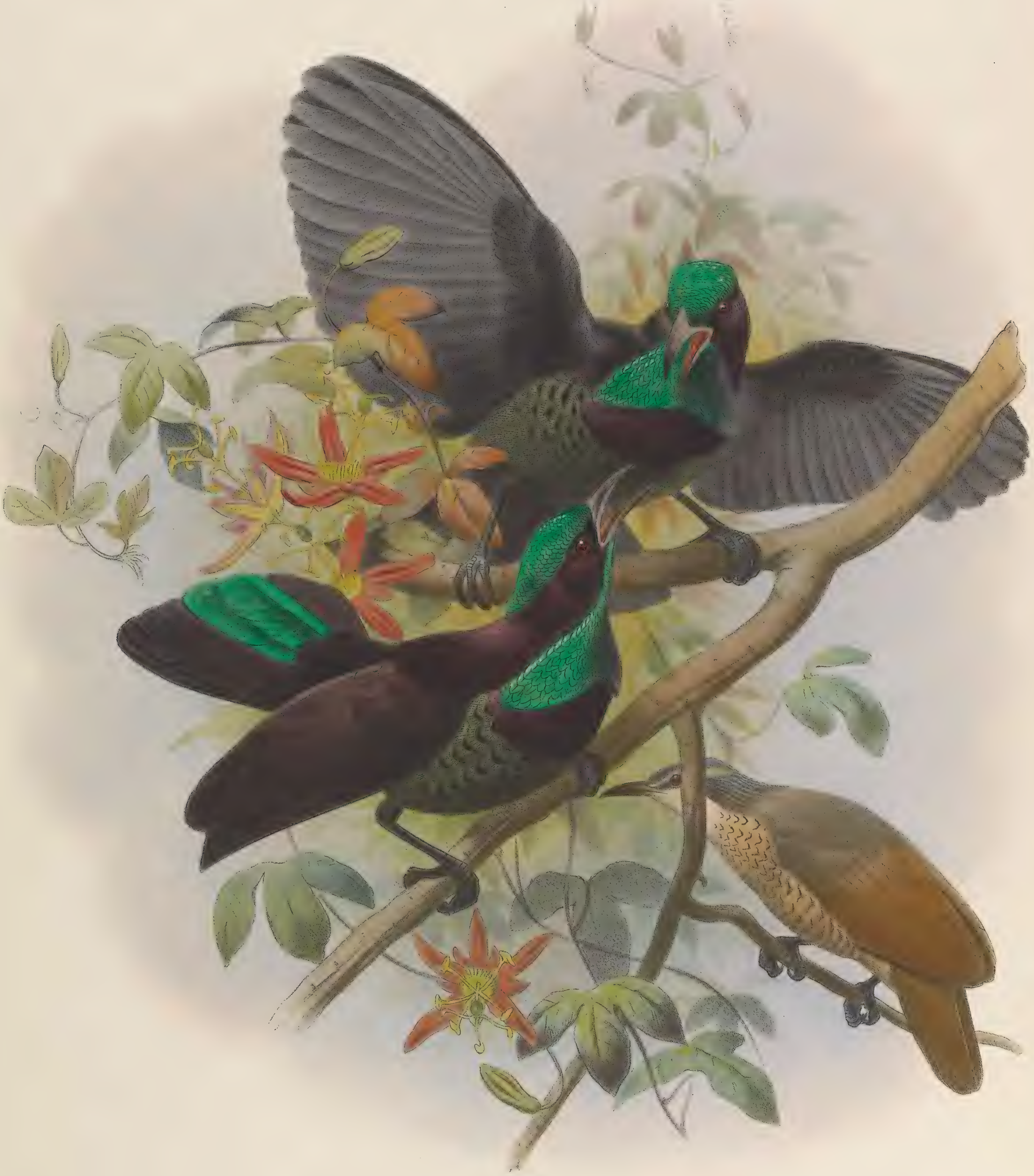
Mr. F. Strange sent Mr. Gould the following note on the habits of this species, which is published in the 'Hand-book to the Birds of Australia':—"The principal resort of the Rifle-bird is among the large cedar-brushes that skirt the mountains and creeks of the Manning, Hastings, MacLeay, Bellenger, Clarence, and Richmond rivers; and there, during the pairing-months of November and December, the male bird is easily found. At that time of the year, as soon as the sun's rays gild the tops of the trees, up goes the Rifle-bird from the thickets below to the higher branches of the pines (*Araucaria Macleayana*), which there abound. It always affects a situation where three or four of these trees occur about two hundred yards apart; and there the morning is spent in short flights from tree to tree, in sunning and preening its feathers, and in uttering its song each time it leaves one tree for another. The sound emitted resembles a prolonged utterance of the word 'Yass,' by which the bird is known to the natives of the Richmond river. In passing from tree to tree, it also makes an extraordinary noise resembling the shaking of a piece of new stiff silk. After 10 A.M. it descends lower down, and then mostly resorts to the thick limb of a cedar tree (*Cedrela australis*), and there continues to utter its cry of *Yass* at intervals of two minutes' duration. At this time, owing to the thickness of the limb and the closeness with which the birds keep to it, it is very difficult of detection; wait with patience, however, and you will soon see him, with wings extended and his head thrown on his back, whirling round and round, first one way and then another."

M. Jules P. Verreaux kindly sends me the following interesting account of this species:—"The *Ptiloris paradiseus*, which was first made known to us by Swainson, and of which Lesson and Gould have given excellent figures and some account of its habits, has been, during my long residence in Australia, one of the species I have particularly observed; and, thanks to the opportunities granted me, I am able to supply some new facts regarding it. Although this bird is larger in size than the *Climacteres*, equally found in various parts of this immense country, it appears to be so closely related to them that, if they only had this form and magnificent plumage, they would be deemed to belong to the same family. Thus, like the species of the genus *Climacteris*, our beautiful bird supports itself often on the trunks of the immense trees which cover a great part of the country even yet so little known to the scientific world. Although this species is chiefly insectivorous, yet at certain seasons of the year it seeks the ravines which are favourable for concealment in the immense forests, and there searches for the seeds of different kinds of plants, more those of creepers than of trees. Its barbed tongue and long and sharp bill seem inappropriate for this kind of food; but I can affirm that it is only done when the seeds are already attacked by the various insects which destroy them (often, indeed, before they become ripe). This bird, when I have observed it, rarely perches, but is seen ordinarily upon the trees or large branches, seeking the larvæ and the insects, such as flies, cicadas, &c., of which they are very fond (for in Australia the bark is not so loose or soft as in Tasmania, where they often find enormous quantities of larvæ, principally of Diptera), which fact I have verified by opening their stomachs. On account of the large size of this species, this kind of food is most suitable for its nourishment. The mere inspection of the tarsus and long toes is not sufficient to justify the supposition that this bird represents in Australia our Wall-creepers (*Tichodroma*), as these equally represent the *Climacteres*, which do not support themselves by their tails any more than does the present species. I have also noticed that it is very rare to see more than two together at a time, flying from tree to tree, ascending and descending exactly the same as the *Climacteres*, and like them running often upon the ground to look for the larvæ fallen from the spot where they had been pecking. The young of the year, which, like those of other species of this family, resemble the female, generally live in separate localities from the old birds. As to the change which takes place in the plumage of these birds, it operates without the intervention of a moult, as we have seen in the majority of species of birds of all families—that is to say, without the feathers falling out, by a gradual coloration of each one. The *Ptiloris paradiseus* always enters the trunks of trees to pass the night; and it also nests there, as I have ascertained by finding the remains of the nests, the breeding-season having passed, as was proved by my meeting with the young. I do not know either the number or the colour of the eggs; but the farmers of Moreton Bay assured me that they were pure white, and about the size of the egg of *Megaloprepia assimilis*, Gould."

Male.—Top and back of head, with a large pyramidal-shaped mark upon the throat, bright metallic light green; neck, back, and upper part of the breast rich deep purple; secondaries velvety black with purplish gloss; primaries black; flanks, lower part of breast, and abdomen very rich dark green; two central feathers very brilliant metallic green; rest of feathers rich blackish brown, with a purplish gloss on the outer webs; bill, feet, and legs black.

Young male.—Upper part of head and neck very dark brown, shafts white; superciliary stripe extending to the nape white: back and wings dark olive-brown; primaries dark olive-brown, the outer webs of the majority edged with rufous brown, others already changed to deep purple. Secondaries in a similar state of transition—some feathers being partly purple, partly dark olive-brown. Throat white, as are the sides of the neck; a few feathers tipped with dark purple. Underparts generally buff, with V-shaped marks of dark brown, like the female, many feathers, however, particularly in the centre, having already changed to the deep purple and green of the adult male, presenting a mottled appearance. Tail light brown. Bill, feet, and tarsi black.

Female.—Upper part of the head dark brown, each feather having a central line of dark buff; line over the eye, extending to the occiput and throat, yellowish white; entire upper parts uniform olive-brown; primaries dark brown, with the edges of both webs rufous brown; tail same colour as the primaries, without the light edges; entire underparts light buff, each feather having an irregular black V-shaped mark diagonal with the shaft; bill, feet, and legs black.



J. Wolf & J. Smit del et lith

M & N. Hanhart imp

PTILORIS VICTORIÆ.

PTILORIS VICTORIÆ.

QUEEN VICTORIA'S RIFLE-BIRD.

PTILORIS VICTORIÆ, Gould, Proc. Zool. Soc. (1849) p. 111, pl. 12.—Id. Birds of Austr. Suppl. pl.—Id. Hand-b. Birds Austr. vol. i. p. 593.—Reich. Hand. der spec. Orn. p. 329.

PTILORNIS VICTORIÆ, Gray, Hand-l. Birds, pt. i. (1869) p. 105, sp. 1272.—Elliot, Proc. Zool. Soc. (1871) p. 582.—Bon. Consp. Gen. Av. (1850) p. 412. sp. 2.—Von Rosenb. Journ. für Ornith. (1864) p. 123.

Hab. Barnard Islands, N. E. coast of Australia (Macgillivray).

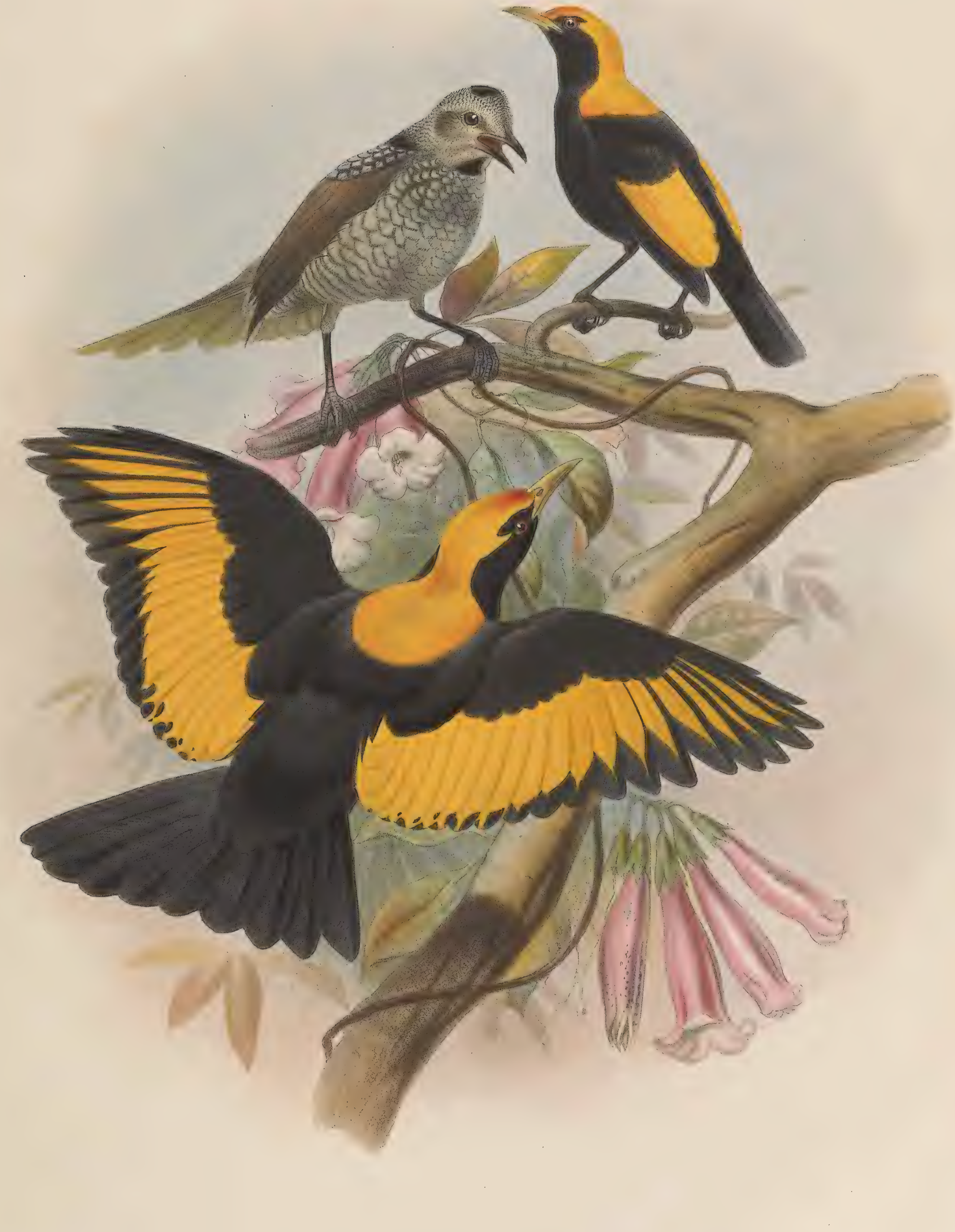
Queen Victoria's Rifle-bird, described by Gould in 1849, very closely resembles the *P. paradiseus*; but it apparently has a smaller bill, and the breast-markings differ slightly in their arrangement. "This bird," says Mr. Macgillivray, as quoted by Gould, "was seen by us during the survey of the N.E. coast of Australia on the Barnard Isles, and on the adjacent shores of the mainland at Rockingham Bay, in the immediate vicinity of Kennedy's first camp. On one of the Barnard Isles (No. 111, in lat. 17° 43′ S.), which is covered with dense brush, I found Queen Victoria's Rifle-bird in considerable abundance. Females and young males were common, but rather shy; however, by sitting down and quietly watching in some favourite locality, one or more would soon alight on a limb or branch, run along it with great celerity, stop abruptly every now and then to thrust its beak under the loose bark in search of insects, and then fly off as suddenly as it had arrived. Occasionally I have seen one anxiously watching me from behind a branch, its head and neck only being visible. At this time (June) the young males were very pugnacious; and upon one occasion three of them were so intent upon their quarrel that they allowed me to approach sufficiently near to kill them all with a single charge of dust shot. The adult males were comparatively rare, always solitary and very shy. I never saw them upon the trees, but only in the thick bushes and masses of climbing plants beneath them; on detecting the vicinity of man they immediately shuffled off among the branches towards the opposite side of the thicket, and flew off for a short distance. I did not observe them to utter any call or cry; this, however, may have arisen from my attention not having been so much directed to them as to the females and young males, which I was more anxious to procure, the very different style of their colouring having led me to believe they were a new species of *Pomatorhinus*."

Male.—Smaller in size but very similar in plumage to the *P. paradiseus*, the principal difference being that the purple on the upper part of the breast is apparently restricted, and forms a band across that portion of the body between the metallic throat and the green of the lower parts. Bill smaller than the *P. paradiseus*, and, with the legs and feet, black.

Female.—Closely resembles that of *P. paradiseus*, but may be distinguished by its smaller size; upper part of head dark brown, striated with greyish brown; superciliary stripe and throat buff; upper parts greyish brown, shaded with olive; underparts deep buff, the feathers having a brown spot near the tips, and irregularly barred on the flanks with the same. Bill and feet black.

Subfamily TECTONARCHINÆ.

Devoid of flowing plumes, only one genus possessing any attempt at extra adornment in the males. The species, so far as known, are accustomed to erect bowers of reeds, in which they disport themselves.



J Wolf & J Smit del. et lith

M&N Hanhart imp

SERICULUS MELINUS.

SERICULUS MELINUS.

REGENT BIRD.

YELLOW-BELLIED THRUSH, Lath. Gen. Syn. Supp. (1801) vol. ii. p. 187. sp. 31.

TURDUS MELINUS, Lath. Gen. Syn. Supp. (1801) p. xliv.

GOLDEN-CROWNED HONEY-EATER, Lath. Gen. Hist. vol. iv. p. 184 (1822).

SERICULUS REGENS, Less. Zool. de la Coquil. (1826), Atlas, pl. 20, ♀.—Id. Man. d'Orn. tom. i. p. 256.—Id. Ois. Parad. (1835), Syn. p. 21; Hist. Nat. p. 204, pls. 26 & 27.—Id. Trait. Ornith. (1831) t. ii. p. 340.

MELIPHAGA CHRYSOCEPHALA, Lewin, Birds New Holl. (1828) pl. 1.

SERICULUS MAGNIROSTRIS, Gould, Proc. Zool. Soc. (1837) p. 145.

ARIOLUS REGENS, Temm. Plan. Color. (1828) vol. ii. pl. 320.—Quoy et Gaim. Voy. de l'Uranie (1824), Atlas, pl. 22.—Cuv. Règn. Anim. (18) t. i. p. 380.

SERICULUS CHRYSOCEPHALUS, Swains. Zool. Journ. (1825) vol. i. p. 478.—Vig. & Horsf. Trans. Linn. Soc. vol. xv. p. 326.—Jard. & Selby, Illus. Ornith. vol. i. pls. 18, 19, 20.—Swains. Class. Birds (1837), vol. ii. p. 238.—Less. Trait. Ornith. (1831) p. 340.—Shaw, Gen. Zool. vol. xiv. p. 266.—Gould, Birds of Austr. vol. iv. pl.—Gray, Gen. Birds, vol. i. p. 233.—Id. List Gen. Birds, 2nd ed. p. 38.—Gould. Hand-b. Birds Austr. vol. i. p. 456 (1865).

SERICULUS MELINUS, Schleg. Mus. Pays-Bas (1867), p. 99.—Gray, Hand-l. Birds (1869), pt. i. p. 293. sp. 4333.—Ramsay, Ibis (1866), pp. 325 & 330, (1867) pp. 415 & 456.—Newton, Ibis (1870), p. 119.

HAB. Eastern Australia (GOULD ET AUCT.).

AMONG all the species constituting the Australian avifauna there is none more conspicuously attired than the one whose portrait is here given. Nothing could present a stronger contrast than the deep velvety black and rich golden yellow which comprise all the colours of its plumage; and when upon the wing, it is a most attractive object. Eastern Australia is its home; and, unlike many members of the Paradiseidæ, able observers have watched it in its haunts and made us acquainted with its curious habits and economy. Like the true Birds of Paradise, the Regent bird has the head thickly covered with short stiff upright feathers, which feel on pressure like soft rich velvet. These feathers do not lie down, as is usually the case; and this is one of the most peculiar characters of the true Birds of Paradise (*P. apoda*, *P. minor*, and *P. rubra*). In its habits the Regent bird is also closely related to the various species of *Chlamydodera*, and like them builds a bower, in which it amuses itself with all kinds of strange antics. But it will be best for me to let those who have witnessed its habits relate their observations in their own way. In his great work on the birds of Australia, Mr. Gould says:—"This beautiful species, one of the finest birds of the Australian fauna, is, I believe, exclusively confined to the eastern portion of the country; it is occasionally seen in the neighbourhood of Sydney, which appears to be the extent of its range to the southward and westward. I met with it in the brushes at Maitland, in company, and feeding on the same trees, with the Satin and Cat Birds and the *Mimeta viridis*; it is still more abundant on the Manning at Port Macquarie, and at Moreton Bay. I sought for and made every inquiry respecting it at Illawarra, but did not meet with it, and was informed that it is never seen there; yet the district is precisely similar in character to those in which it is abundant, about two degrees to the eastward. While encamped on Mosquito Island, near the mouth of the river Hunter, I shot several, and observed it to be numerous on the neighbouring islands, and particularly Bakers' Island, where there is a fine garden, and where it commits serious injury to the fruit crops.

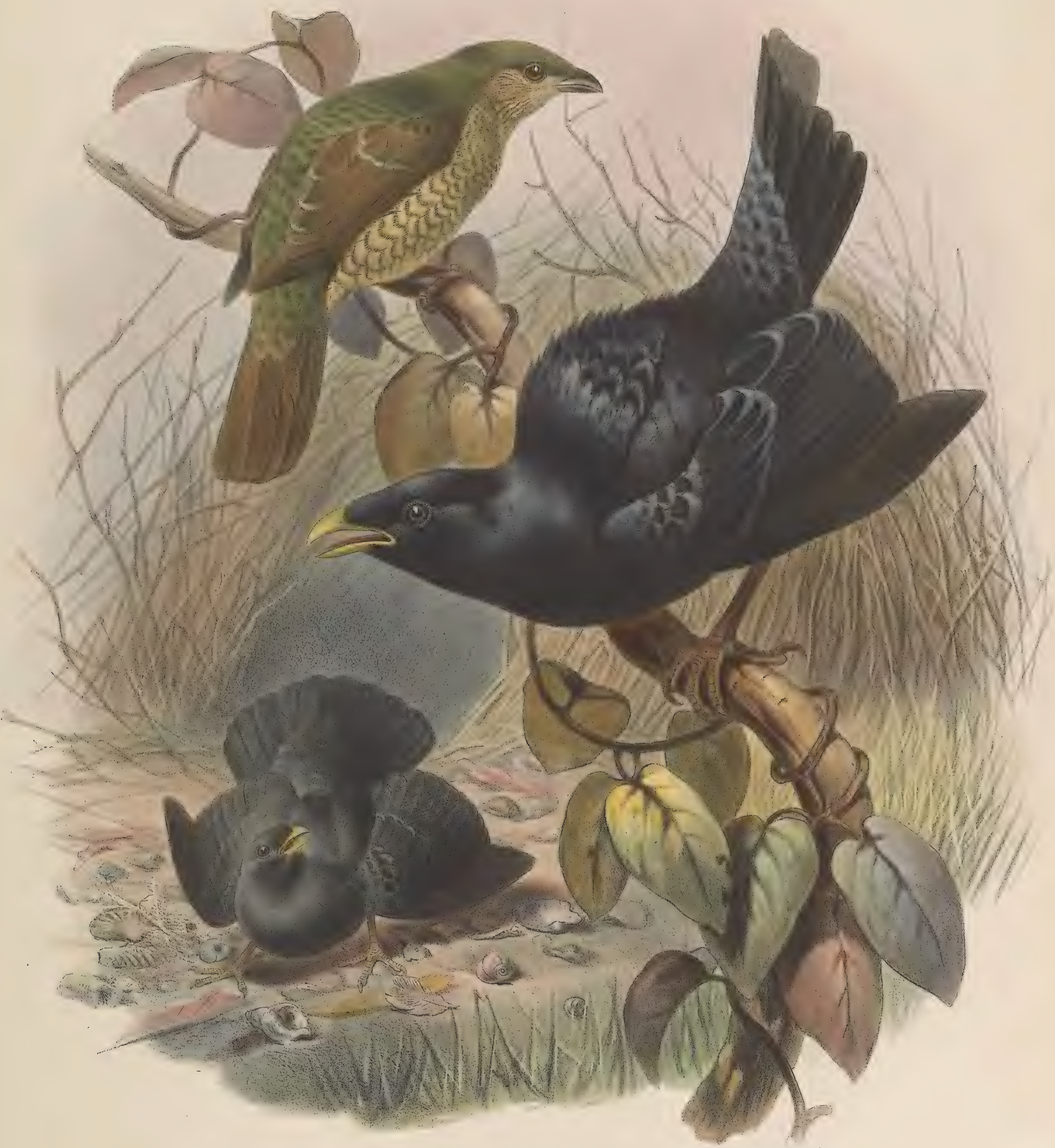
"Although I have spoken of this bird as abundant in the various localities referred to, I must mention that at least fifty out of colour may be observed to one fully plumaged male, which, when adorned in its gorgeous livery of golden yellow and deep velvety black, exhibits an extreme shyness of disposition, as if conscious that its beauty, rendering it a conspicuous object, might lead to its destruction. It is usually, therefore, very quiet in its actions, and mostly resorts to the topmost branches of the trees; but when two gaily coloured males meet, conflicts frequently take place. To obtain specimens in their full dress, considerable caution is necessary; on the other hand, females and immature males are very tame, and, when feeding among the foliage, appear to be so intent upon their occupation as not to heed the approach of an intruder; I have occasionally stood beneath a low tree, not more than fifteen feet high, with at least ten feeding voraciously above me.

"I did not succeed in discovering the nest; but the late F. Strange, writing from Moreton Bay, informed me that it 'is rudely constructed of sticks, no other material being employed, not even a few roots as a lining. On the 4th of November I observed one building, and, as I was leaving for the Richmond the next day, I gave instructions that it should be taken fifteen days after; when the time arrived, however, no native could be got to secure it; and it remained till my return on the 4th December. I then sent a native up; and he brought me the nest, with two young ones covered with down, except the wings, which were feathered. As the two birds quite filled the nest, and I have heard of other nests being taken with the same number of birds in them, I am inclined to believe that two is the normal number of eggs laid. After taking the young, I wounded and succeeded in capturing the old bird, which, after being two days in confinement, became reconciled to captivity, attended to her progeny, fed them, and removed the dirt that accumulated in the nest. . . . . The eggs are still a desideratum; and their acquisition would be a source of much gratification to me.' C. Coxen, Esq., of Brisbane, gave the following account of this species at a meeting of the Queensland Philosophical Society in 1864, making us acquainted with a habit of this bird never previously suspected. 'Although the Regent bird has been known to ornithologists for many years, very little of its habits has become known, and it has been left for me to bring under your notice the very peculiar and curious habit it has in common with the Satin bird (*Ptilonorhynchus holosericeus*) and the Spotted Bower-bird (*Chlamydodera maculata*). My attention was called to this peculiarity in August last by Mr. Waller, taxidermist, of Edward-street, in this city, to whose untiring energy and ability as a collector I must always bear testimony. Mr. Waller informed me that, while shooting in a scrub on the banks of the Brisbane river, he saw a male Regent bird playing on the ground, jumping up and down, puffing out its feathers, and rolling about in a very odd manner, which occasioned much surprise, he never having seen the bird on the ground before. The spot where it was playing was thickly covered with small shrubs. Not wishing to lose the opportunity of procuring a specimen, he fired, but only succeeded in wounding it; and on searching the spot, he found a bower formed between, and supported by, two small brush plants, and surrounded by small shrubs, so much so that he had to creep on his hands and knees to get to it. While doing so, the female bird came down from a lofty tree, uttered her peculiar note, and lit on a branch immediately over the bower, apparently with the intention of alighting in front of it, but was scared away on seeing Mr. Waller so close to her. She continued flitting over the place and calling for her mate so long as he was in the neighbourhood. Mr. Waller believes that the male bird, after being wounded, fluttered to some distance from the bower and died, as a male Regent bird was found dead two days afterwards in a more open part of the brush. On visiting the scrub on the following and several successive days, the female bird was seen in the locality of the bower, and, by her constant calling, was apparently lamenting the loss, or what might seem to be the inconstancy, of her mate. The ground around the bower was clear of leaves for some twelve or eighteen inches, and had the appearance of having been swept, the only objects in its immediate vicinity being a small specimen of helix. The structure was alike at both ends; but the part designated as the front was more easy of approach, and had the principal decorations, the approach to the back being more closed by scrub. Mr. Waller being desirous that this curious habit of the Regent bird should be verified, determined to leave the bower untouched until he had acquainted me with his discovery. Circumstances occurred to prevent me from accompanying him to its whereabouts until the following November, when we found the bower in good preservation. Previous to my seeing and examining the structure, I must confess to having had considerable doubts as to whether it would not prove to be a bower of the Satin bird; but these doubts were dissipated at the first glance, the formation of the structure differing considerably, and the decoration more so. With Mr. Waller's assistance I removed the building without injuring or in any way defacing its architectural style. It may not be inopportune for me to state that I was the first to discover the bower and habits of the Satin bird, and also among the first discoverers of the bower of the Spotted Bower-bird, that I have had frequent opportunities of seeing them in the New-South-Wales brushes and the myall scrubs to the westwards, and am consequently conversant with their peculiarities. The bower of the Regent bird differs from the Satin bird's in being less domed-shaped, straighter in the sides, platform much less (being only ten inches by ten), but thicker in proportion to its area, twigs smaller and not so arched, and the inside of the bower smaller—indeed, I believe, too small to admit an adult Satin bird without injury to its architecture. The decorations of the bower are uniform, consisting only of a small species of helix, herein forming a marked distinction from the Satin bird's. The Regent bird frequents our river-scrubs during the winter months, from the beginning of May to the end of September, coming from the south, whither he repairs during the summer. Its food consists of berries, wild fruits, and insects. In confinement it greedily disposes of house-flies, cockroaches, and small insects, showing great activity in their capture; but its principal food is the banana, of which it eats largely. It is very bold and pugnacious, the young males particularly so. In confinement several cases have occurred of one having killed the other. The young males closely resemble the females in plumage during their first year; in the second they partially assume the gay plumage of their sire; and in their third year they put on the full livery of the adult male.'"

My friend, M. Jules P. Verreaux, who has had, during his long sojourn in Australia, ample opportunities for observing this and other species of this family inhabiting that country, sends me the following account of the Regent bird:—"The *Sericulus melinus* resembles in its habits the greater number of the Australian Melephagidæ, and is most often met with on those trees whose flowers contain the greatest amount of saccharine matter, attracting numerous small insects, which it searches for with the utmost care. The tongue, being barbed on each side near the tip, is introduced into the flower and extracts the greater number of the insects, which are generally hidden at the bottom of the corolla. It feeds also upon the seeds of different kinds of trees; I have always observed it upon the wild figs, of the seeds of which it is very fond. This species also seeks for insects among the flowers of the *Eucalyptus*, and also feeds upon the pulpy seeds of the wild vines, and of the climbing plants which are so numerous in certain parts of Australia. I have observed that the brood generally consists of from four to five young—that these do not leave their parents until the next breeding-season, when the plumage of the young males commences to change to that of the adult—and that then they go off in a different direction, and are seen no more in the same localities chosen by the adults for their nidification. At this time, full of passion and vivacity, they are often seen assembling together to construct their bowers. This species, like the *Ptilonorhynchus violaceus* and *P. crassirostris*, also the two species of *Chlamydodera*, *nuchalis* and *maculata*, construct the bowers so well represented by Gould in the 'Birds of Australia.' These are frequented, generally every day, by these different species of birds, which not only perform there a thousand evolutions, but bring from considerable distances little stones, bones, shells, twigs, and all kinds of feathers to decorate it. At this time also the plaintive cry of *pihau-pihau*, which they usually utter, appears changed for the notes *prit-prit*, *prio-prio*, which are softer, and only made by the male, the female having a guttural note difficult to be heard. The *Sericulus*, like the other birds with which I associate it, generally forms its nest in the fork of a branch at a height of seven or eight feet; this it composes chiefly of the fibres of climbing plants, of mosses and lichens, mingling with them at the same time a quantity of leaves and feathers. The nest is firm and cup-shaped, the interior lined with very delicate fibres, and contains generally five eggs, of a clear reddish tint, and spotted with brick-red spots; near the larger end these spots are so arranged as to make a considerable circle. In their first plumage the coloration of both sexes resembles that of the female; and it is not until the second year that the males assume their beautiful dress, but only obtain the rich orange tint on the head in their third year."

Male.—Upper part of head, neck, back, and secondaries golden yellow; forehead tinged with deep orange; apical portion of secondaries black, as are also the edges of the inner webs of the three uppermost ones. First and second primaries black, third, fourth, fifth, and sixth black on their outer webs and tips, the black extending downwards on the inner side of the inner web for half the length of the feather; rest of inner web golden yellow, extending along the shaft to within a short distance of the tip. Rest of plumage and tail deep velvety black. Bill horn-colour, brownish towards the tip of lower mandible. Feet and tarsi black.

Female.—Forehead light brown, finely spotted with dark brown; back of head black. Cheeks and lower part of neck light brown, spotted with dark brown like the forehead. A broad bar of black divides this from the back, which has the feathers white in the centres, with black edges. Rest of upper parts dark brown, a white spot near the tips of the feathers, broader and more conspicuous on those near the flanks. Wings olive-brown, dark brown on the inner webs. Chin and upper part of the throat white; central portion of lower part black. Upper part of breast, flanks, and lower parts dull white, with the edges of the feathers dark brown, palest on the central part of the abdomen. Tail light brown. Bill, feet, and tarsi black.



J.Wolf & J.Smit del et lith

M&N Hanhart imp

PTILORHYNCHUS VIOLACEUS.

PTILONORHYNCHUS VIOLACEUS.

SATIN BOWER-BIRD.

PYRRHOCORAX VIOLACEUS, Vieill. Nouv. Dict. d'Hist. Nat. tom. vi. p. 569 (1816).—Id. Ency. Méthod. (1823) p. 896.

PTILONORHYNCHUS HOLOSERICEUS, Kuhl, Beytr. zur Zool. (1820) p. 150.—Wagl. Syst. Av. (1827) sp. 1.—G. R. Gray, Gen. Birds, vol. ii. p. 325.—Gould, Birds of Austr. vol. iv. pl. 10.—Swain. Class. Birds (1827), p. 271.—Gray, List Gen. Birds (1855), p. 65.—Gould, Handb. Birds Austr. (1865) vol. i. p. 442.—Ramsay, Ibis (1866), p. 330.—Sclat. Wolf's Zool. Sketch., 2nd Ser. pl. xxviii.

SATIN GRAKLE, Lath. Gen. Hist. Birds (1822), vol. iii. p. 171.

PTILONORHYNCHUS SQUAMULOSUS, Wagl. Syst. Av. (1827) sp. 2.

KITTA HOLOSERICEA, Temm. Plan. Col. vol. ii. pls. 395, 442.—Less. Trait. d'Orn. (1831) pl. xlvi. fig. 1.

PTILONORHYNCHUS M'LEAYI, Vig. & Horsf. Trans. Linn. Soc. vol. xv. p. 263.

PTILORHYNCHUS HOLOSERICEUS, Cab. Mus. Hein. (1850) Theil i. p. 213.

HAB. Port Denison, New South Wales (RAMSAY).

THE Bower-birds are remarkable for the peculiar habit of constructing covered ways, in which they perform strange antics, and from which they derive their popular name. Mr. Gould was the first ornithologist to give publicity to these customs, and published them in his work upon the Australian birds; and as the accounts of an eye-witness are always those most desired, I here insert what he has related concerning this species:—"The localities frequented by the Satin Bower-bird are the luxuriant and thickly foliaged brushes stretching along the coast from Port Philip to Moreton Bay, and the cedar-brushes of the Liverpool range. So far as is at present known, it is restricted to New South Wales; certainly it is not found so far to the westward as South Australia, and I am not aware of its having been seen on the north coast; but its range in that direction can only be determined by future research.

"It is a stationary species, but appears to roam from one part of a district to another, either for the purpose of varying the nature, or of obtaining a more abundant supply of food. Judging from the contents of the stomachs of the many specimens I dissected, it would seem that it is altogether frugivorous, or if not exclusively so, that insects form but a small portion of its diet. Independently of numerous berry-bearing plants and shrubs, the brushes it inhabits are studded with enormous fig-trees, to the fruit of which it is especially partial. It appears to have particular times in the day for feeding, and when thus engaged among the low shrub-like trees, I have approached within a few feet without creating alarm; but at other times the bird was extremely shy and watchful, especially the old males, which not unfrequently perch on the topmost branch or dead limb of the loftiest tree in the forests, whence they can survey all around, and watch the movements of their females and young in the brush below. In the autumn they associate in small flocks, and may often be seen on the ground near the sides of rivers, particularly where the brush descends in a steep bank to the water's edge."

"The extraordinary bower-like structure alluded to in my remarks on the genus, first came under my notice in the Sidney Museum, to which an example had been presented by Charles Coxen, Esq., of Brisbane, as the work of the Satin Bower-bird. This so much astonished me that I determined to leave no means untried for ascertaining every particular relating to this peculiar feature in the bird's economy; and on visiting the cedar-brushes of the Liverpool range, I discovered several of these bowers or playing-places on the ground, under the shelter of the branches of overhanging trees, in the most retired part of the forest. They differed considerably in size, some being a third larger than others. The base consists of an extensive and rather convex platform of sticks, firmly interwoven, on the centre of which the bower itself is built. This, like the platform on which it is placed, and with which it is interwoven, is formed of sticks and twigs, but of a more slender and flexible description, the tips of the twigs being so arranged as to curve inwards and nearly meet at the top; in the interior the materials are so placed that the forks of the twigs are always presented outwards, by which arrangement not the slightest obstruction is offered to the passage of the birds. The interest of this curious bower is much enhanced by the manner in which it is decorated with the most gaily coloured articles that can be collected, such as the blue tail-feathers of the Rose-hill and Pennantian Parrakeets, bleached bones, the shells of snails, &c. Some of the feathers are inserted among the twigs, while others, with the bones and shells, are strewed about near the entrances. The propensity of these birds to fly off with any attractive object is so well known to the natives that they always search the runs for any small missing article that may have been accidentally dropped in the brush. I myself found at the entrance of one of them a small neatly worked stone tomahawk an inch and a half in length, together with some slips of blue cotton rags, which the birds had doubtless picked up at a deserted encampment of the natives.

"It has now been clearly ascertained that these curious bowers are merely sporting-places, in which the sexes meet, and the males display their finery and exhibit many remarkable actions; and so inherent is this habit, that the living examples which have from time to time been sent to this country, continue it even in captivity. Those belonging to the Zoological Societv have constructed their bowers, decorated and kept them in repair, for several successive years. . . . . I regret to state that although I have used my utmost endeavours, I could never discover the nest and eggs of this species; neither could I obtain any authentic information respecting them, either from the natives or the colonists."

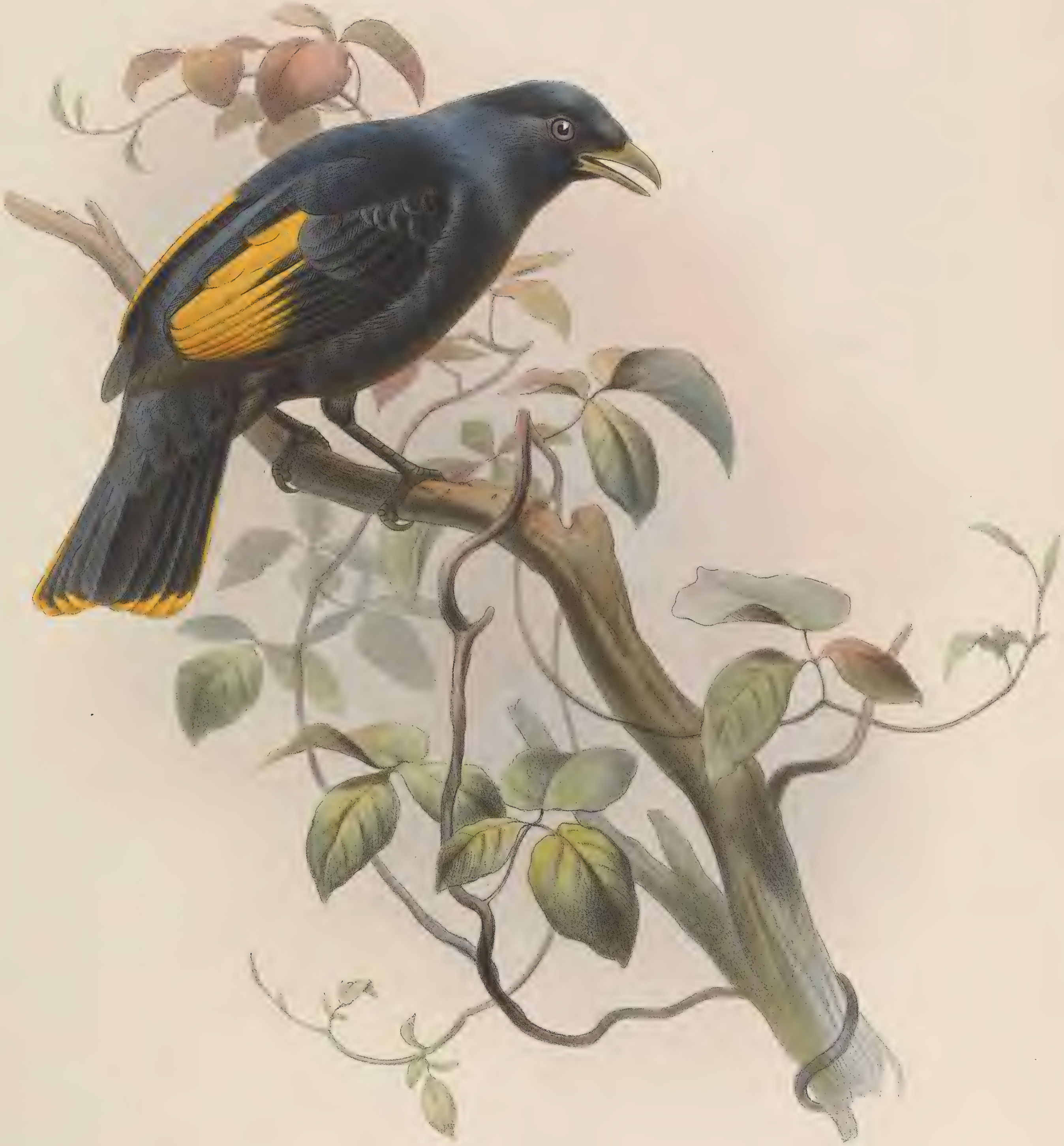
Mr. Gould also publishes a letter from the late F. Strange, who says:—"My aviary is now tenanted by a pair of Satinbirds, which for the last two months have been constantly engaged in constructing bowers. Both sexes assist in their erection; but the male is the principal workman. At times the male will chase the female all over the aviary, then go to the bower, pick up a gay feather or a large leaf, utter a curious kind of note, set all his feathers erect, run round the bower, and became so excited that his eyes appear ready to start from his head, and he continues opening first one wing and then the other, uttering a low whistling note, and, like the domestic Cock, seems to be picking up something from the ground, until at last the female goes gently towards him, when, after two turns round her, he suddenly makes a dash, and the scene ends."

This bird has generally been known to ornithologists by the name of *holosericeus*, bestowed upon it by Kuhl in 1820; but this will have to become a synonym of *violaceus*, given to the species by Vieillot in 1816, four years previously.

Male.—General colour of the plumage deep rich blue, with a gloss like satin, feathers of the forehead projecting over the bill, concealing the nostrils. Primaries and secondaries glossy brownish black, the tips of the latter blue. Tail black tipped with blue. Bill bluish at base, horn-colour at tip. Feet and tarsi flesh-colour. Iris dark blue.

Female.—Entire upper parts dark olive-green. Underparts light buff, with a greenish shade, feathers of the throat edged with brown, those of the remainder of the lower parts crossed near the tips by a curved line of dark brown, broadest on the flanks. Wings and tail rufous brown; the edges of the inner webs of the secondaries yellowish. Bill black, feet and legs flesh-colour.

The figures are of the size of life.



J. Wolf & J. Smit, del. et lith.

M&N. Hanhart imp.

PTILONORHYNCHUS RAWNSLEYI.

PTILONORHYNCHUS RAWNSLEYI.

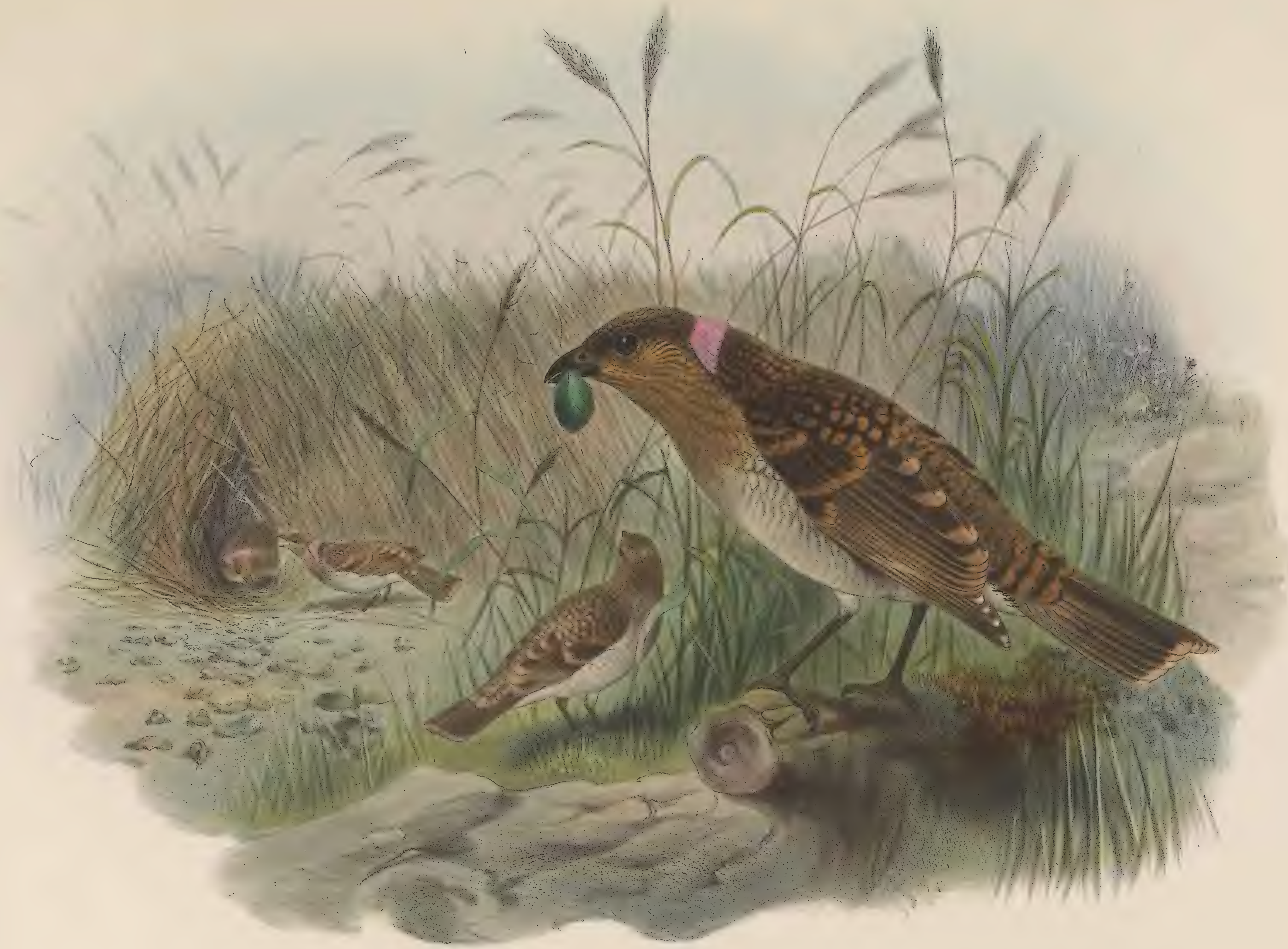
RAWNSLEY'S BOWER-BIRD.

SERICULUS RAWNSLEYI, Diggles, Austr. Orn. pl.
PTILONORHYNCHUS RAWNSLEYI, Gould, Birds of Austr. Supp. vol. i. pl.—Newton, Ibis, (1868) p. 348, (1870) p. 119.

HAB. Brisbane, Australia (RAWNSLEY).

THE bird here represented was described by Mr. Diggles from a single specimen killed near Brisbane, in Australia. Its appearance would indicate it to be a hybrid between the *Ptilonorhynchus violaceus* and *Sericulus melinus*, rather than a distinct species; and I am strongly inclined to believe that this supposition will eventually prove correct. Mr. Gould has given the following account of the history of the unique specimen, in the supplementary volume of his 'Birds of Australia,' as recorded by its discoverer. "It may interest you," says Mr. Rawnsley, "to learn the circumstances under which the bird was killed. A large flock of Satinbirds were feeding in the garden around my house at Wilton, near Brisbane, on the 14th of July, 1867; and I had just shot an adult black male, when my attention was attracted by, as I thought, another, which had alighted on a tree a short distance off. Loading as quickly as possible, I fired and killed the bird; as it fell, the yellow portion of its plumage caught my eyes, and I made sure it was a Regent bird; but on picking it up, I was, as you may suppose, greatly astonished. The bird was quite dead, I instantly drew back the eyelid, and found that the iris was of a pale sea-green, without a trace of the beautiful magenta tint which encircles and radiates from the purple in the Satinbird. I took the bird to Mr. A. D. Gregory, the explorer and now Surveyor-General of Queensland, who immediately recognized it as a species seen by him about the month of October, 1856." "Mr. Gregory," says Mr. Diggles, "always took considerable trouble to distinguish the different notes of birds and cries of bush-animals, knowing that the natives frequently use them as decoy-notes or signals of communication; and his attention was drawn to the present species from its peculiar note, which was a prolonged *o-hao* several times very distinctly repeated in a minor key, giving it a very plaintive character. Mr. Gregory states he had an excellent opportunity of observing its plumage, and cannot possibly be mistaken, and that on mentioning the circumstances to Mr. Elsey, the surgeon and naturalist attached to the party, it became a matter of discussion between them as to whether it ought to be placed in the genus *Ptilonorhynchus* or that of *Sericulus*. The country in which it was seen was an open box-flat, with bigalow-scrubs in the neighbourhood." "It certainly partakes much of the character of both the Satin and Regent birds," remarks Mr. Coxen; "but hybrids, I believe, never occur in a state of nature, especially between members of different genera. Mr. Gregory is very clear as to his having seen the bird on the Suttor; he watched it some time; and on his return to the camp he mentioned it to Mr. Elsey, who, not having himself observed it, naturally imagined for some time that Mr. Gregory had merely seen a Regent bird. Mr. Gregory told me it was its peculiar note that first drew his attention to it, and that he could have made no mistake on the subject. I suspect, however, that he did make a mistake (for neither the Satin nor the Regent bird gives utterance to such a sound), and that the note heard was that of an adult black or an immature black-and-buff male of the Australian Koel (*Eudynamis Flindersi*), it being well known that the Indian bird, which is probably identical, does emit a note similar to the one he describes."

The specimen mentioned above, of which a representation is here given, is the only one that has been obtained; and it will be seen that it resembles the Satin Bower-bird in all respects, save the yellow hue upon the wings and tail.



J. Wolf & J. Smit del. et lith.

M&N Hanhart imp

CHLAMYDODERA MACULATA.

CHLAMYDODERA MACULATA.

SPOTTED BOWER-BIRD.

CALODERA MACULATA, Gould, Proc. Zool. Soc. (1836) p. 106.—Syn. Birds Austr. part 1.

CHLAMYDERA MACULATA, Gould, Birds of Austr. (1837) pt. 1.—Id. Birds Austr. vol. iv. pl. 8.—G. R. Gray, Gen. Birds, vol. ii. p. 325.

CHLAMYDODERA MACULATA, Cab. Mus. Hein. Theil i. p. 212.—Gould, Hand-B. Birds of Austr. (1865) vol. i. p. 450.—Ramsay, Ibis (1866), p. 329.

Hab. New South Wales, Eastern Australia, Moreton Bay (Gould).

Mr. Gould, during his residence in Australia, where he went to procure materials for his work upon the birds of that then little-known country, was the first to ascertain and make known to naturalists the extraordinary habits of those species of this genus with which he was so fortunate as to meet. Although many species of birds have peculiar and eccentric actions, generally accompanied, however, by some unusual formation of body or plumage, yet it was never before imagined that any bird was in the habit of building a house, so that it might be able to disport itself in a state of semiconcealment. Such, however, is the custom of the species of Bower-birds, which have in fact received their trivial name from the constructions they are in the habit of erecting. As no account is so satisfactory as that which is given from personal observation, I insert here the one which was published by the discoverer of the present species:—"During my journey into the interior of New South Wales," says Mr. Gould, "I observed this bird to be tolerably abundant at Brezi, on the river Mokai, to the northward of the Liverpool Plains; it is also equally numerous in all the low scrubby ranges in the neighbourhood of the Namoi, as well as in the open brushes which intersect the plains on its borders; and collections from Moreton Bay generally contain examples. Still, from the extreme shyness of its disposition, the bird is seldom seen by ordinary travellers, and it must be under very peculiar circumstances that it can be approached sufficiently close to observe its colours. The Spotted Bower-bird has a harsh, grating, scolding note, which is generally uttered when its haunts are intruded on, and by which its presence is detected when it would otherwise escape observation. When disturbed, it takes to the topmost branches of the loftiest trees, and frequently flies off to another neighbourhood.

"In many of its actions, and in the greater part of its economy, much similarity exists between this species and the Satin Bower-bird, particularly in the curious habit of constructing an artificial bower or playing-place. I was so far fortunate as to discover several of these bowers during my journey in the interior, the finest of which I succeeded in bringing to England; it is now in the British Museum. The situations of these runs or bowers are much varied; I found them both on the plains studded with Myalls (*Acacia pendula*) and other small trees, and in the brushes clothing the lower hills. They are considerably longer and more avenue-like than those of the Satin Bower-bird, being in many instances three feet in length. They are outwardly built of twigs, and beautifully lined with tall grasses, so disposed that their heads nearly meet; the decorations are very profuse, and consist of bivalve shells, crania of small mammalia and other bones bleached by exposure to the rays of the sun or from the camp-fires of the natives. Evident indications of high instinct appear throughout the whole of the bower and decorations formed by this species, particularly in the manner in which the stones are placed within the bower, apparently to keep the grasses with which it is lined fixed firmly in their places; these stones diverge from the mouth of the run on each side so as to form little paths, while the immense collection of decorative materials are placed in a heap before the entrance of the avenue, the arrangement being the same at both ends. In some of the larger bowers, which had evidently been resorted to for many years, I have seen half a bushel of bones, shells, &c. at each of the entrances. I frequently found these structures at a considerable distance from the rivers, from the borders of which they could alone have procured the shells and small round pebbly stones; their collection and transportation must therefore be a task of great labour. I fully ascertained that these runs, like those of the Satin Bower-bird, formed the rendezvous of many individuals; for, after secreting myself for a short space of time near one of them, I killed two males which I had previously seen running through the avenue.

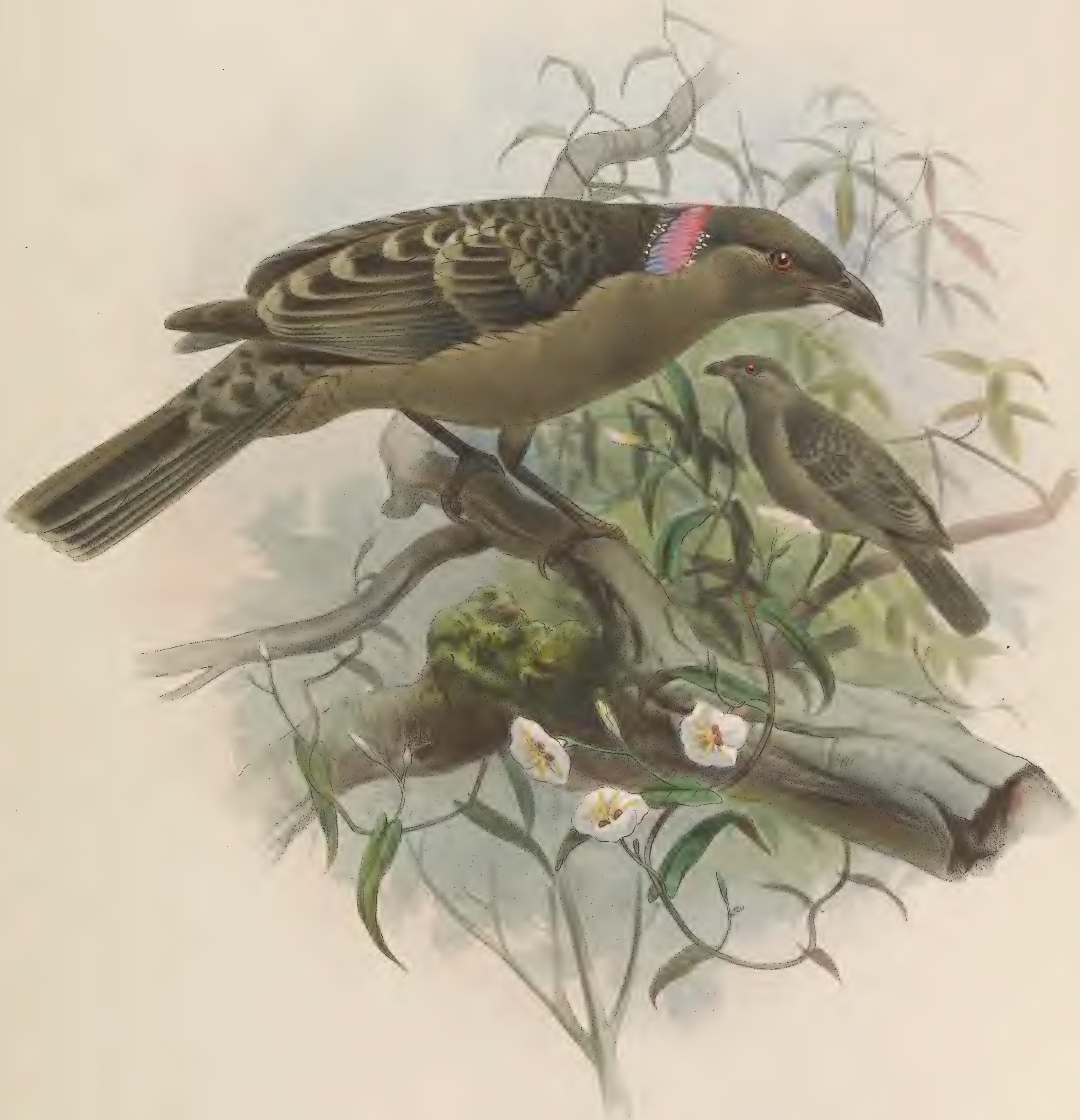
CHLAMYDODERA MACULATA.

"The natives unhesitatingly state that the bird makes its nest in the high gum-trees; and Mr. Charles Coxen, of Brisbane, found a nest of the *Chlamydodera maculata* with young birds in it some years ago on Oaky Creek near the present Joudary, a head station on the Darling Downs; the nest was built in one of the Myrtaceæ overhanging a water-hole near a scrub on which a tower was built, and was in form very similar to that of the Common Thrush of Europe, being of a cup-shape, constructed of dried sticks with a slight lining of feathers and fine grass. The eggs are still unknown."

The brilliant patch of deep rose-colour that adorns the nape of this species varies in extent among individuals; and Mr. Gould possesses one specimen which has this spot about twice the depth of any I have ever seen. The rest of the plumage of the example did not seem to differ in any way from the ordinary style, and therefore it could only be regarded as an extra effort on the bird's part towards an increased amount of adornment.

Male.—Top of head blackish brown, an oblong chestnut spot near the tip. From the nape two patches of rather stiff feathers of an intense rose-colour with a tendency to a brilliant lilac. Below this a band of dull brown. Wings dark brown, yellowish upon the edges of the feathers, the secondaries tipped with light buff. Upper parts blackish brown, each feather tipped with reddish buff. Tail dark brown, lightest on the edges, and tipped with light buff. Chin, throat, and upper part of the breast dark buff, edges of the feathers dark brown. Rest of underparts yellowish white; some of the lower flank-feathers tipped with dark buff, the ends of the lower tail-coverts also exhibiting an indication of very light buff near their tips. Bill black. Feet and and tarsi black.

The female resembles the male in her plumage, but is devoid of the beautiful rose-coloured patch on the nape of the neck.



J Wolf & J Smit del. et lith.

M&N Hanhart imp

CHLAMYDODERA NUCHALIS.

CHLAMYDODERA NUCHALIS.

GREAT BOWER-BIRD.

PTILONORHYNCHUS NUCHALIS, Jard. & Selby, Ill. Orn. vol. ii. pl. 103.

CALODERA NUCHALIS, Gould, Syn. Birds Austr. part i.

CHLAMYDERA NUCHALIS, Gould, Birds of Austr. vol. iv. pl. 9.—G. R. Gray, List of Gen. Birds (1855), p. 65.—Id. Gen. of Birds, vol. ii. p. 325.—Id. Hand-l. Birds, pt. i. (1869) p. 294. sp. 4339.—Homb. et Jacq. Voy. au Pôle Sud (1853), vol. iii. p. 64, Atl. pl. 7. fig. 2.

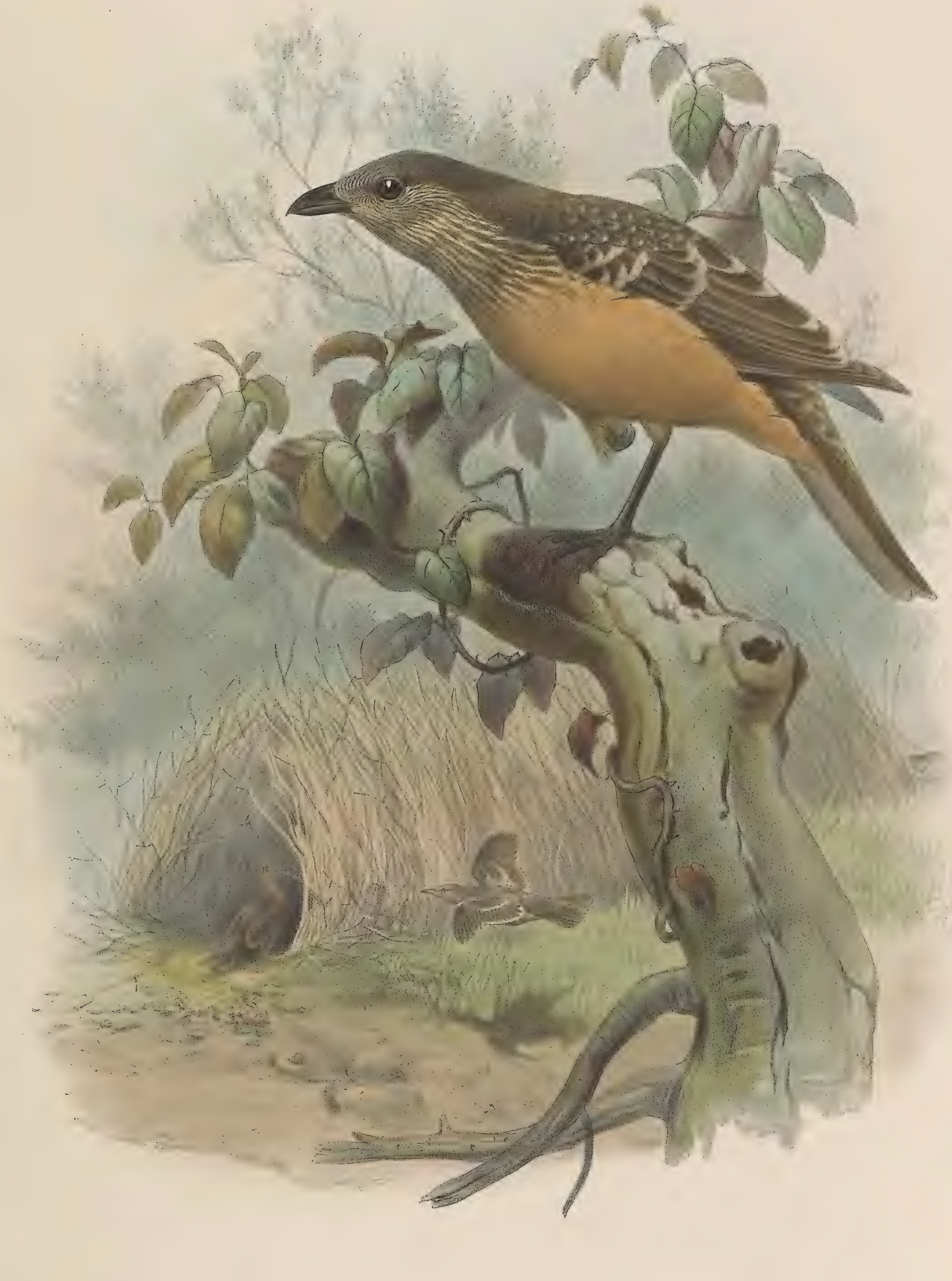
CHLAMYDODERA NUCHALIS, Cab. Mus. Hein. Theil i. p. 212.—Gould, Hand-b. Birds of Austr. (1865) vol. i. p. 448.—Ramsay, Ibis (1866), p. 329.

Hab. North-western Australia (Gould).

This rather rare species of Bower-bird was described by Jardine and Selby in their 'Illustrations of Ornithology;' but they were not aware from what portion of Australia it came. It is very distinct from the other species of this genus, and lacks any kind of spots upon its plumage. Capt. Stoke, in his 'Discoveries in Australia,' says of this bird that he "found matter for conjecture in noticing a number of twigs with their ends stuck in the ground, which was strewed over with shells, and their tops brought together so as to form a small bower; this was two and a half feet long, one and a half foot wide at either end. It was not until my next visit to Port Essington that I thought this any thing but some Australian mother's toy to amuse her child. Upon being asked one day to go and see the bird's playhouse, I immediately recognized the same kind of construction I had seen at the Victoria river, and found the bird amusing itself by flying backwards and forwards, taking a shell alternately from each side, and carrying it through the archway in its mouth."

Male.—Head light brown, with a silvery gloss in certain lights. From the occiput springs a triangular crest of a beautiful rose, becoming a rich blue at the tips of the feathers. The brown feathers around the outer side of this nuchal crest are tipped with a buffy white, and form a conspicuous line about this brilliant spot. Wings and back and upper tail-coverts dark brown, the feathers margined and broadly tipped with brownish white. Tail of the same colour as the back; feathers edged with olive-brown, and tipped with dull white. Entire underparts pale olive-brown; a few faint brown bars upon the under tail-coverts. Bill dark horn-colour; feet and legs blackish brown.

The female resembles the male, but has no bright nuchal crest.



J. Wolf & J. Smit del et lith.

M&N Hanhart imp

CHLAMYDODERA CERVINEIVENTRIS.

CHLAMYDODERA CERVINIVENTRIS.

BUFF-BREASTED BOWER-BIRD.

CHLAMYDERA CERVINIVENTRIS, Gould, Proc. Zool. Soc. (1850) p. 201.—Id. B. of Austr. Supp. vol. i. pl.—G. R. Gray, Hand-l. Birds, pt. i. (1869) p. 294. sp. 4342.

CHLAMYDODERA CERVINIVENTRIS, Gould, Hand-b. Birds Austr. (1865) vol. i. p. 454.

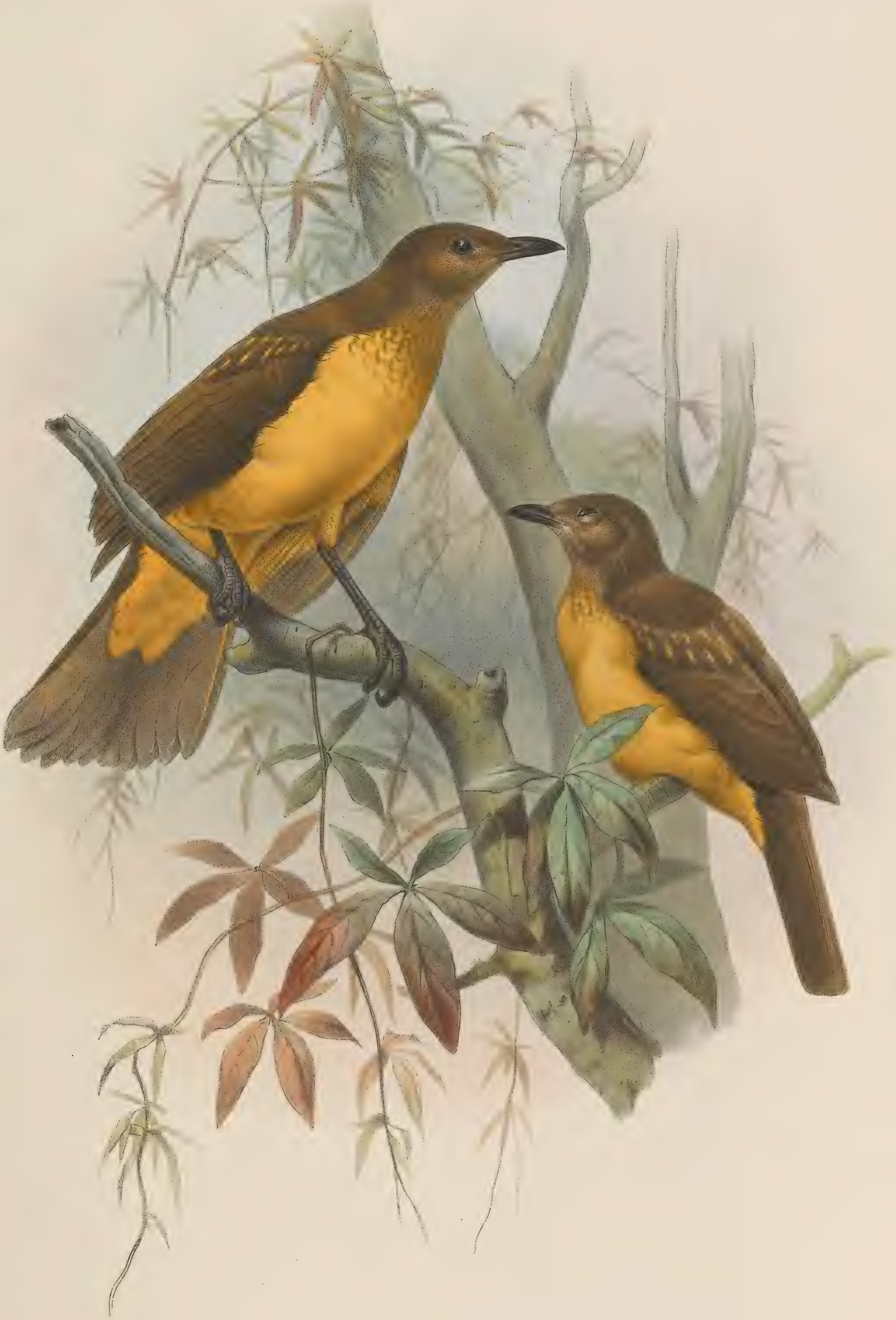
Hab. Cape York, Australia (Macgillivray).

Mr. Macgillivray was the discoverer of the present species, which is remarkable among the Bower-birds from the fact of the males never having the lilaceous mark upon the nape of the neck which is witnessed in those of all the others. "Its bower," says Mr. Gould, "differs from those of the other species—its walls, which are very thick, being nearly upright or but little inclining towards each other at the top, so that the passage through is very narrow; it is formed of fine twigs, is placed on a very thick platform of thicker twigs, is nearly four feet in length and almost as much in breadth, and has here and there a small snail-shell or berry dropped in as a decoration." Mr. Macgillivray's account of the discovery of the species as related by him in his 'Narrative of the Voyage of H.M.S. Rattlesnake' is as follows:—"Two days before we left Cape York, I was told that some Bower-birds had been seen in a thicket or patch of low scrub half a mile from the beach; and after a long search I found a recently constructed bower, four feet long and eighteen inches high, with some fresh berries lying upon it. The bower was situated near the border of the thicket, the bushes composing which were seldom more than ten feet high, growing in smooth sandy soil without grass.

"Next morning I was landed before daylight, and proceeded to the place in company with Paida, taking with us a large board on which to carry off the bower as a specimen. I had great difficulty in inducing my friend to accompany me, as he was afraid of a war party of Gomokudins, which tribe had lately given notice that they were coming to fight the Evans-Bay people. However, I promised to protect him, and loaded one barrel with ball, which gave him increased confidence; but he insisted upon carrying a large bundle of spears and a throwing-stick.

"While watching in the scrub, I caught several glimpses of the *tewinga* (its native name) as it darted through the bushes in the neighbourhood of the bower, announcing its presence by an occasional loud *churr-r-r*, and imitating the notes of various other birds, especially the *Tropidorhynchus*. I never before met with a more wary bird; and for a long time it enticed me to follow it to a short distance; then flying off and alighting on the bower it would deposit a berry or two, run through, and be off again before I could reach the spot. All this time it was impossible to get a shot. At length, just as my patience was becoming exhausted, I saw the bird enter the bower and disappear, when I fired at random through the twigs, fortunately with effect. So closely had we concealed ourselves latterly, and so silent had we been, that a Kangaroo while feeding actually hopped up within fifteen yards, unconscious of our presence until fired at."

Top of head brownish grey, forehead dotted with white; back, wings, and tail dark brown, each feather of the back having a white spot in the centre at the tip; edges of primaries and secondaries whitish. Throat and upper part of breast dark grey, streaked with light rufous. Rest of underparts rich buff. Bill, legs, and feet black.



J. Wolf & J. Smit del. et lith.

M & N Hanhart imp.

CHLAMYDODERA XANTHOGASTRA.

CHLAMYDODERA XANTHOGASTRA.

YELLOW-BREASTED BOWER-BIRD.

SERICULUS XANTHOGASTER, Schlegel, Tijdsch. Dierk. (1871) pt. v. p. 50.
CHLAMYDODERA XANTHOGASTRA, Elliot, Ibis (1872), p. 113.

Hab. New Guinea (Rosenberg).

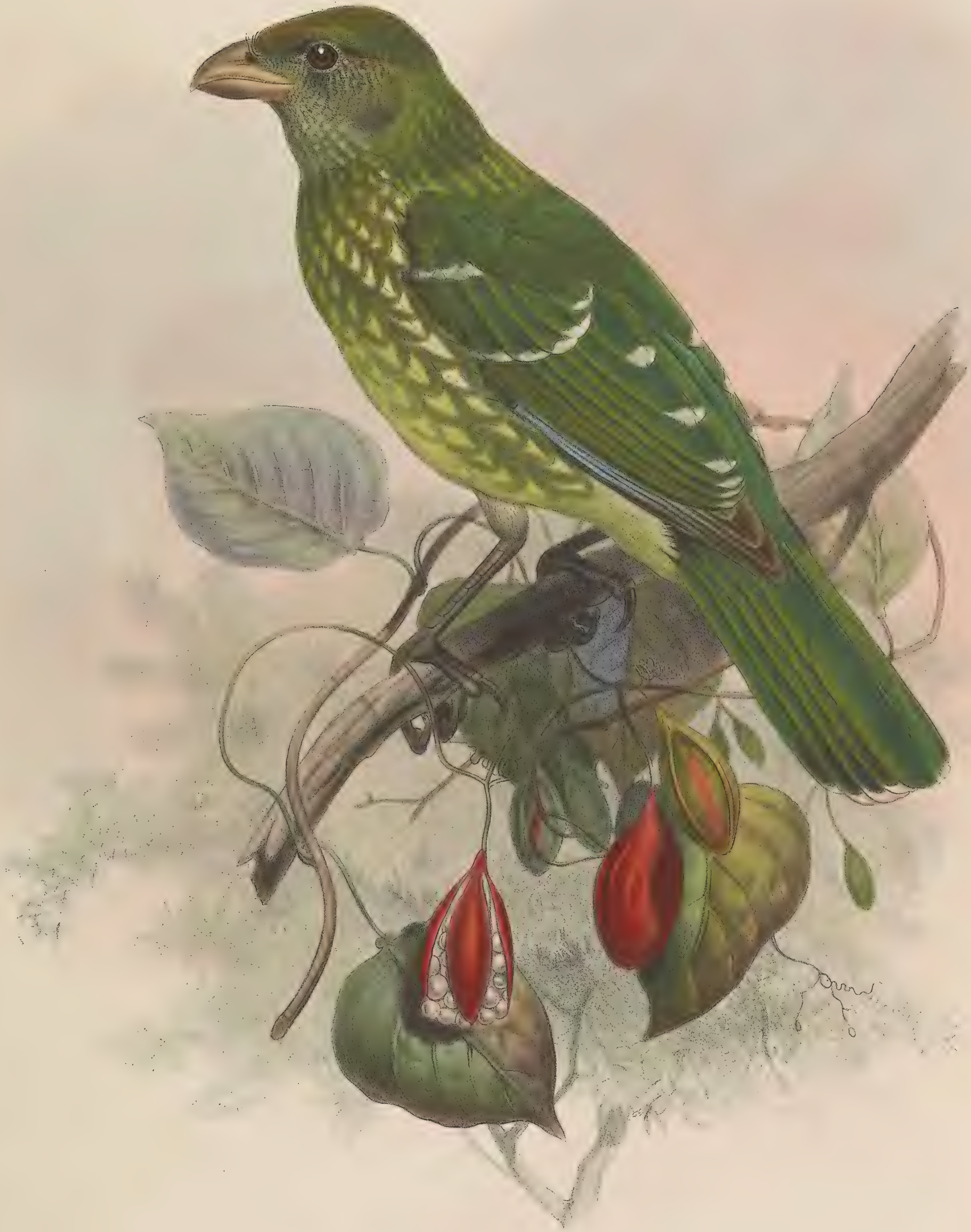
This new species was procured by M. von Rosenberg in the interior of New Guinea, where he lately succeeded in penetrating; and he has the proud satisfaction of being the only European who has ever reached the mountain-districts of that little-known land. Prof. Schlegel, who described this bird, states that "the researches made in the spring of 1870 in the interior of the northern part of New Guinea have made us acquainted with this species, sent by M. von Rosenberg under the name of *Oriolus xanthogaster*. In placing it in the genus *Sericulus* I have in view the particular structure of the feathers of the head, of the neck, and mantle—a character exclusively belonging to *Sericulus*, and one not observed in the Loriots. We possess a male and two females of this bird, both having the same system of coloration. The *Sericulus xanthogaster* is of the style of the *Sericulus aureus*, also originating in the northern part of the island of New Guinea, although our travellers have never met with it there."

In 'The Ibis' for 1872 I placed this bird in the genus *Chlamydodera*; for it is very different from the only species of the genus *Sericulus* to which Prof. Schlegel considered it belonged. In structure it is a true Bower-bird, and is nearest the *Chlamydodera cervineiventris* (Gould), to which, indeed, it assimilates in the colouring of its plumage; and, like all the species of this genus, there is little or no difference between the sexes as regards their dress, while the female of *Sericulus melinus* is coloured altogether differently from the male. That the present species also builds a bower I have not the slightest doubt, although its discoverer does not mention having seen any such structure.

Upper part of head and neck light brown, darkest in the centre of the feathers. Mantle covering the upper part of the back dark brown, with the shafts yellow. Rest of upper parts dark rufous brown, centre of the feathers on the back bright yellow. Wings rufous brown. Tail lighter brown than the back. Shafts rufous. Cheeks and throat light rufous brown. Entire underparts bright golden-yellow. Bill and feet and tarsi black.

Both sexes are alike in the colour of their plumage.

The description is taken from the type in the Leyden Museum kindly lent to me by Prof. Schlegel.



J. Wolf & J. Smit del. et lith.

M & N. Hanhart imp.

AILURÆDUS CRASSIROSTRIS.

ÆLURŒDUS CRASSIROSTRIS.

LARGE-BILL CAT BIRD.

LANIUS CRASSIROSTRIS, Payk. N. Act. Ac. Upsal. (1815) vol. vii. p. 282, t. 10.

GREEN GRAKLE, Lath. Gen. Hist. vol. viii. p. 186.—Shaw, Gen. Zool. vol. vii. (1809) p. 47.—Lath. Gen. Syn. Supp. vol. ii. p. 129

PTILONORHYNCHUS VIRIDIS, Wagl. Syst. Av. sp. 3.

PTILONORHYNCHUS SMITHII, Vig. & Horsf. Trans. Linn. Soc. vol. xv. p. 264.—Gould, B. of Austr. vol. iv. pl.—Gray, Gen. Birds, vol. ii. pl. 325.

KITTA VIRESCENS, Temm. Plan. Color. vol. ii. pl. 396.

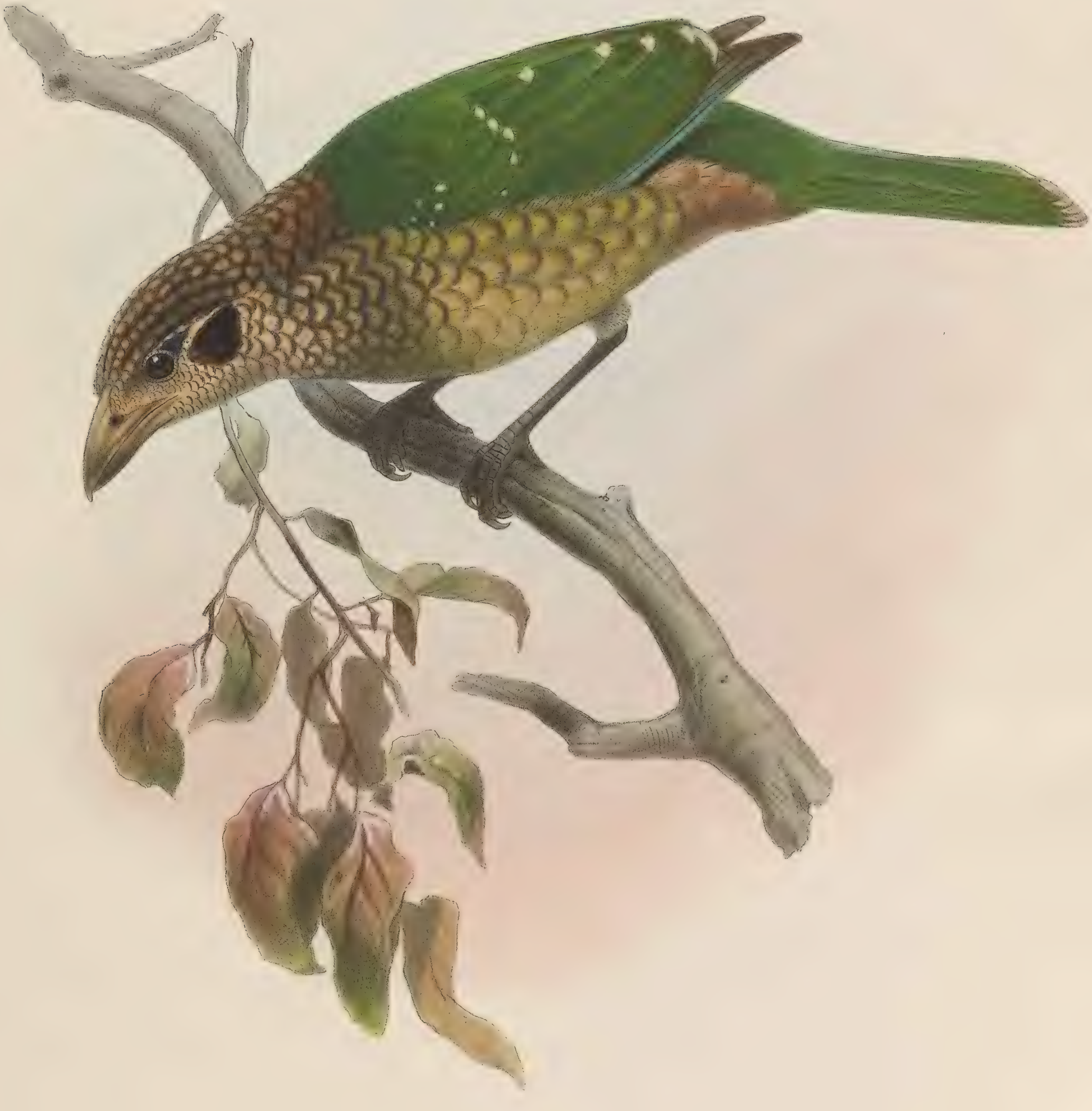
AILURŒDUS SMITHII, Cab. Mus. Hein. Theil i. p. 213.—Gould, Hand-b. Birds Austr. (1865) vol. i. p. 446.

Hab. New South Wales (Gould).

Many authors, from the days of Latham to our own time, have written about this bird, and classed it in many different families and genera. It is allied to the Bower-birds, and frequents like situations with some of them. "So far as our knowledge extends, this species is only found in New South Wales, where it inhabits the luxuriant forests that extend along the eastern coast between the mountain-ranges and the sea—those of the Illawarra, the Hunter, the MacLeay, and the Clarence, and the cedar-brushes of the Liverpool range, being, among many others, localities in which it may be found. Situations suitable to the Regent and Satin birds are equally adapted to the habits of the Cat bird; and I have not unfrequently seen them all three feeding together on the same tree. The wild fig and the native cherry, when in season, afford an abundant supply. So rarely does it take insects, that I do not recollect ever finding any remains in the stomachs of those specimens I dissected. In its disposition it is neither a shy nor a wary bird, little caution being required to approach it either when feeding or while quietly perched upon the lofty branches of the trees. It is at such times that its loud, harsh, and extraordinary note is heard—a note which differs so much from that of all other birds, that, having been once heard, it can never be mistaken. In comparing it to the nightly concerts of the domestic cat I conceive that I am conveying to my readers a more perfect idea of the note of this species than could be given by pages of description. This concert is performed either by a pair or several individuals; and nothing more is required than for the hearer to shut his eyes to the neighbouring foliage to fancy himself surrounded by London grimalkins of house-top celebrity.

"While in the district in which this bird is found, my attention was directed to the acquisition of all the information I could obtain respecting its habits, as I considered it very probable that it might construct a bower similar to that of the Satin bird; but I could not satisfy myself that it does; nor could I discover its nest, or the situation in which it breeds; it is doubtless, however, among the branches of the forest in which it lives. The sexes do not offer the slightest difference in plumage, or any external character by which the male may be distinguished from the female; she, however, is rather less brilliant in her markings and somewhat smaller in size."—Gould.

Entire upper parts, wings, and tail rich dark green. Tips of secondaries, lesser wing-coverts, tertials, and tail-feathers spotted with white. Feathers of hind neck and upper part of back also having a small white spot in the centre near the tip. Throat, cheeks, upper part of breast, and flanks green, with a brownish tinge, each feather with a heart-shaped white spot in the centre near the tip. Rest of underparts pale green, becoming a light yellow in the centre of the abdomen. Under tail-coverts very light green. Bill yellowish horn-colour. Feet and tarsi blackish brown.



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M&N. Hanhart imp

AILURÆDUS MELANOTUS.

ÆLURŒDUS MELANOTIS.

BLACK-CHEEK CAT BIRD.

PTILONORHYNCHUS MELANOTIS, Gray, Proc. Zool. Soc. (1858) p. 181. sp. 75.—Von Rosenb. Jour. für. Ornith. (1864) p. 122.—Schleg. Tijdsch. Dierk. pt. v. p. 51.

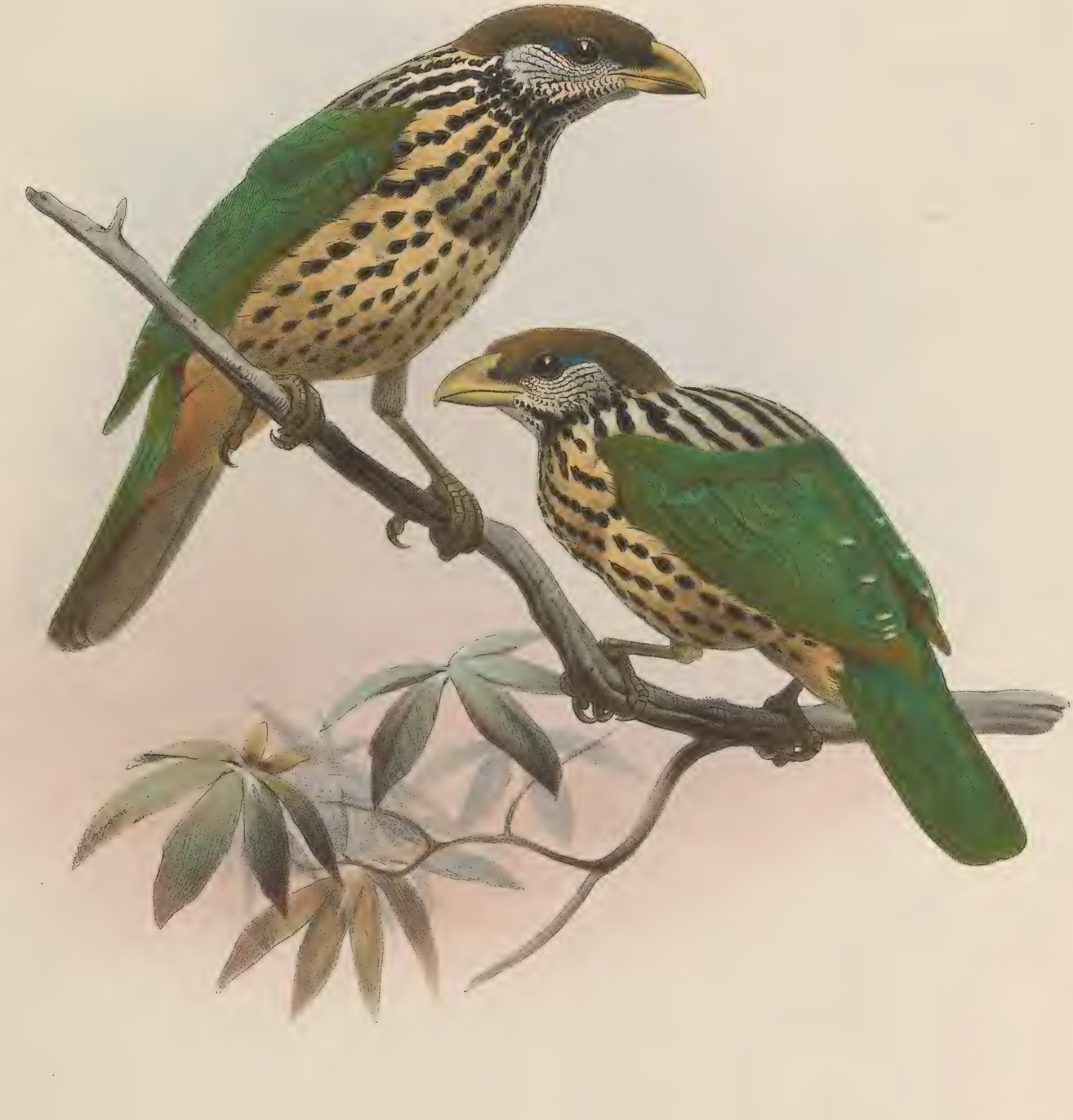
AILURŒDUS MELANOTIS, Gray, Hand-l. Birds (1869), part i. p. 294, sp. 4338.

Hab. Aru Islands (Wallace). Islands of Wokam, Traugan, Maykor (Rosenberg).

This third species of *Ælurœdus* was described by the late G. R. Gray, F.R.S. &c., from specimens procured by Mr. Wallace in the Aru Islands. It resembles very closely the *A. buccoides*, but has a much larger bill, besides some other differences. Nothing has been related by its discoverer about its economy or habits; and it is at present altogether too rare a bird for us to have had any opportunities of learning its mode of life. A single specimen in the British Museum, another in Mr. Wallace's private collection, one in my own, together with a series in the Leyden Museum, procured by the Dutch collectors in the East Indies, are all that are at present known.

Upper part of head brownish black, each feather with a round buff spot near the tip. Upper part of back the same, the buff spots much larger. Back, wings, and tail deep green, the latter tipped with white. Ear-coverts black. Throat white, barred with dark brown. Upper part of breast blackish brown, a heart-shaped spot near the tip white. Abdomen and under tail-coverts bright yellow. Flanks greenish yellow, brownish in the centres of the feathers. Bill yellowish white. Feet and tarsi black.

There is no difference in the plumage of the sexes.



M&N. Hanhart imp.

J. Wolf & J. Smit del. et lith.

AILURÆDUS BUCCOIDES.

ÆLURŒDUS BUCCOIDES.

LEAST CAT BIRD.

KITTA BUCCOIDES, Temm. Plan. Col. vol. ii. p. 147, pl. 575.—Von Rosenb. Journ. für Ornith. (1864) p. 122.
AILURŒDUS BUCCOIDES, G. R. Gray, Hand-l. Birds (1869), pt. i. p. 294. sp. 4337.—Schleg. Tijdsch. Dierk. pt. v. p. 49.
CISSA BUCCOIDES, Gray, Gen. of Birds, Append. p. 14.

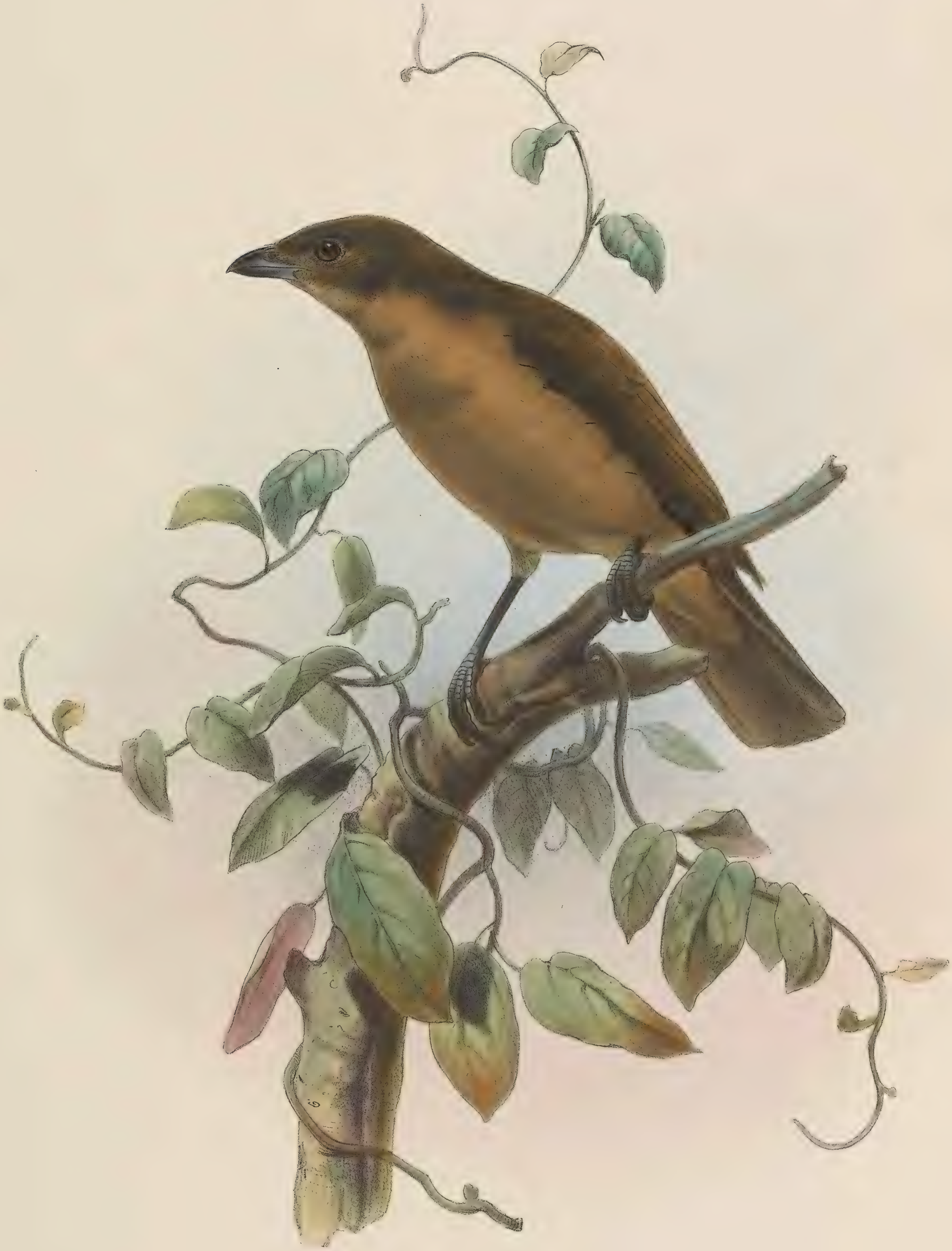
Hab. New Guinea, Salwatty (Gray, Temminck); Islands of Sorong, Batanta, and Waigiou (Bernstein).

This curious bird, allied to the *A. crassirostris*, was described by Temminck in the 'Planches Coloriées,' and a figure given of it. He merely states that two specimens were forwarded to him, shot by their travellers during their stay in the Bay of Lobo, in New Guinea. Nothing whatever is known of its economy or habits; and it has always been a rare bird up to the present day, only occasionally brought in collections made about the coasts of new Guinea. I should suppose it would resemble somewhat in its habits the *A. crassirostris*, and possibly may build a bower.

Top of head dark rufous brown, cheeks white. Throat white, spotted with black. Nape of neck and mantle composed of long loose feathers, white, with a broad central line of black. Wings, back, and tail bright grass-green. Underparts bright buff, each feather having a black spot in the centre of the tip. Bill yellowish white. Feet and tarsi lead-colour.

There is no difference in the plumage of the sexes.

The figures are life-size.



J.Wolf & J.Smit del. et lith.

M & N Hanhart imp.

AMBLYORNIS INORNATUS.

AMBLYORNIS INORNATA.

DULL-COLOURED BOWER-BIRD.

PTILONORHYNCHUS INORNATUS, Schleg. Tijdsch. Dierk. (1871) pl. v. p. 51.
AMBLYORNIS INORNATA, Elliot, Ibis, (1872) p. 114.

Hab. New Guinea (Rosenberg).

This apparently new species of Bower-bird is another of the novelties which rewarded the difficult undertaking of M. von Rosenberg during his journey into the interior of New Guinea. Several specimens were obtained, which were sent to the Leyden Museum, and described by Prof. Schlegel as quoted above. The Professor states in his article, "Only two species of this genus are known at the present day inhabiting New Guinea with its groups of neighbouring islands. One of these, the *Ptilonorhynchus buccoides*, easily recognizable from the black spots near the eyes, which on the lower parts are sprinkled upon a yellowish ground, has been observed at Waigiou, Batanta, Salwatti, and in several localities of the two coasts of the northern part of the great island of New Guinea. The other, the *Ptilonorhynchus melanotis* of G. R. Gray, has been found by Wallace in the Aru group, whence MM. von Rosenberg and Hoedt have sent us a fine series of specimens; and it has since been rediscovered by the latter traveller in Mysol. The last expedition commanded by M. von Rosenberg, into the interior of the northern part of New Guinea, has supplied us with a third species, the *Ptilonorhynchus inornatus*, of which we give a description. It resembles in its form the *Ptilonorhynchus buccoides*; but the tail is a little longer, and the bill and feet are less strong; and it is distinguished from all the other species by its excessively simple style of coloration. The female is absolutely the same in colour as the male; but she is a little more slender in form."

Head and upper part of back rufous brown; rest of upper parts dark brown. Wings rufous brown, primaries dark brown. Entire underparts dark buff. Tail dark brown. Bill, feet, and tarsi black.

No difference in the plumage of the sexes.

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